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PROCEEDINGS

OF THE

Connecticut Medical Society,

1884.

NINETY-THIRD ANNUAL CONVENTION,

HELD AT

New Haven, May 28th and 29th.

NEW SERIES. VOL. III.—NO. 1.

PUBLISHED BY THE SOCIETY.

S. B. St. JOHN, M.D., Secretary,

HARTFORD, CONN.

HARTFORD, CONN.:

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1884.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by a special vote.

Next Annual Convention of the Connecticut Medical Society will be held in Hartford, May 27 and 28, 1885.

All communications intended for the Connecticut Medical Society must be addressed to S. B. St. John, M.D., Hartford, Conn.

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OFFICERS OF THE SOCIETY.

1884-1885.

PRESIDENT.

B. N. COMINGS, M.D., New Britain.

VICE-PRESIDENT.

E. C. KINNEY, M.D., Norwich.

VICE-PRESIDENTS, *ex officio*.

C. W. CHAMBERLAIN, M.D., Hartford Co.

R. B. GOODYEAR, M.D., New Haven Co.

E. V. COATS, M.D., New London Co.

SETH HILL, M.D., Fairfield Co.

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E. P. SWASEY, M.D., New Britain.

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S. R. ST. JOHN, M.D., Hartford.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

S. E. WORDIN, M.D.

J. H. GRANNIS, M.D.

E. A. HILL, M.D.

STANDING COMMITTEES.

On Examination.

B. N. COMINGS, M.D., *ex officio*, NEW BRITAIN.
LEWIS BARNES, OXFORD.
J. H. GRANNIS, M.D., SAYBROOK.
C. B. NEWTON, M.D., STAFFORD SPRINGS.
G. F. LEWIS, M.D., BANGORPORT.
M. STORRS, M.D., HARTFORD.
F. D. EDGERTON, M.D., MIDDLETOWN.
H. W. BUELL, M.D., LITCHFIELD.

Committee to Nominate Professors in the Medical Department of Yale College.

W. J. BEACH, M.D., J. B. KENT, M.D.
J. G. STANTON, M.D., C. W. CHAMBERLAIN, M.D.
G. L. PORTER, M.D.

Committee to Nominate Physicians to the Detroit for the Insane.

A. WOODWARD, M.D., R. W. MATTHEWSON, M.D.
R. HUBBARD, M.D., R. S. GOODWIN, M.D.
L. HOLBROOK, M.D.

Committee of Publication.

S. B. St. JOHN, M.D., } *ex officio*.
E. P. SWASEY, M.D., }
I. W. LYON, M.D.

Committee of Arrangements.

M. STORRS, M.D., *Anniversary Chairman*.
W. M. HUDSON, M.D.
J. CAMPBELL, M.D.

Registrar.

W. H. HOLMES, M.D.

Absentee.

F. E. BOCKWITH, M.D.

PROCEEDINGS.

CONNECTICUT MEDICAL SOCIETY—NINETY-THIRD ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in the Common Council Chamber, City Hall, New Haven, at 12.2.2, Wednesday, May 28, 1884.

The President, Dr. Elisha B. Nye of Middletown, called the Convention to order, and appointed Dr. A. T. Douglas and Dr. S. B. St. John as the committee to examine the credentials of the elected Fellows. The committee reported the Fellows elected whose names are presented. The list was accepted and the committee discharged. The following is the list as presented:

LIST OF FELLOWS, *in office*.

President.

E. B. NYE, M.D.

Vice-President.

B. N. COMING, M.D.

Vice-President pro tempore.

O. W. CHAMBERLAIN, M.D.

*R. B. GOODRICH, M.D.

*E. F. COATS, M.D.

SETH HILL, M.D.

*Wm. A. LEWIS, M.D.

*W. J. BEARD, M.D.

*S. U. TURNER, M.D.

F. L. DRAYTON, M.D.

Treasurer.

E. P. SWASEY, M.D.

Secretary.

S. B. ST. JOHN, M.D.

Committee on Matters of Professional Interest to the State.

W. C. WILE, M.D.

J. A. GRANNIS, M.D.

E. C. KINSER, M.D.

FELLOWS ELECTED IN 1884.

Hartford County.

M. Storrs, M.D.

T. G. Wright, M.D.

George Clary, M.D.

Wm. H. Mather, M.D.

H. G. Howe, M.D.

New Haven County.

W. H. Bartlett, M.D.

Henry Fleischner, M.D.

Lewis Barnes, M.D.

J. D. McGaughey, M.D.

F. E. Beckwith, M.D.

New London County.

L. B. Almy, M.D.

J. LaPlante, M.D.

A. T. Douglas, M.D.

F. N. Braman, M.D.

P. Cassidy, M.D.

Fairfield County.

G. A. Shelton, M.D.

W. S. Todd, M.D.

Robert Lander, M.D.

*F. J. Young, M.D.

S. E. Wordin, M.D.

Windham County.

C. J. Fox, M.D.

W. W. Foster, M.D.

*C. N. Allen, M.D.

*F. G. Sexton, M.D.

*Oscar LaRue, M.D.

Litchfield County.

H. W. Shore, M.D.
W. S. Munger, M.D.

*L. J. Ketchum, M.D.
R. S. Goodwin, M.D.

*R. P. Knight, M.D.

Holderness County.

F. D. Edgerton, M.D.
J. F. Calf, M.D.

D. A. Cleveland, M.D.
G. C. H. Gilbert, M.D.

J. Olmstead, M.D.

Tolland County.

F. L. Dickinson, M.D.

E. K. Leonard, M.D.

C. F. Sumner, M.D.

The President then addressed the Convention.

Fellows and Brothers of the Connecticut Medical Society.—

Assembled as we are under a by-law appended to the charter which gives us a corporate existence, I will avail myself of the occasion to tender to you, and through you to the members of our body, my sincere thanks for the honor, unthought on my part, of being called to preside over so honorable a body as the Connecticut Medical Society. While it affords me pleasure to welcome you to this our annual gathering, I crave and trust I shall receive your aid and forbearance in the discharge of the duties pertaining to the office which I am temporarily to fill.

While we avail ourselves of the occasion to enjoy the amenities and strengthen the friendships so desirable in all fraternities, I have no doubt that our action will be such as to furnish adequate proof that we are influenced by the still nobler purpose of a better qualification for discharging the important duties which, as medical men, the public have a right to and do expect of us.

Among the topics which will come before this Convention, and which excited no little interest and discussion at the meeting of last year, is as to the legal status of our Society. It appears to be a question whether section 6 of an act of the Legislature passed in 1873, making some change in the charter of the Medical Institution of Yale College did not annul that of the State Medical

Society. Your committee to whom the matter was referred, with power to employ counsel, have the opinion of a legal gentleman that the section in question did not annul the charter; but this opinion, however authoritative, is not decisive, as it is not concurred in by some legal authorities, as appears in the report of the Secretary of last year. It would seem that the most direct and effective way of putting the question permanently at rest would be a binding act by the Legislature. I would suggest the advisability of such action on the part of the Society as will bring about that result.

Among the recommendations of the Committee on Business is an addition to the by-laws that "all remarks made in the discussion of any subject shall be committed to writing by the person making them either before or immediately after making them. The Secretary shall provide suitable tablets at the expense of the Society for this purpose." That the object aimed at might be in many cases desirable is obvious. Whether a general observance of the rule can be secured, especially when the remarks are of much extent, I very much question; still, as the expense of the tablets will be small, perhaps it may be well to test the operation of the by-law by passing it.

Another by-law recommended by the committee is: "No voluntary paper shall be published which has not been read before some County Medical Association and recommended by them." If the proposed by-law were so modified as to allow of the publication of voluntary papers read before the State Convention and deemed worthy, although they might not have been read before any county association—certainly a not very improbable case—I should recommend its adoption.

I concur in the recommendation that a by-law be passed requiring each county society to appoint one of its Fellows, and an alternate, to serve as a member of the Nominating Committee.

I also second the recommendations of the committee to whom were referred the suggestions of my worthy predecessor.

Considering the number of proposed additions to your code, and remembering that law-makers sometimes err by enacting too many rather than too few, I refrain from adding to the list you have before you.

Among the topics to which I would invite your attention is that of hygiene, and our duty as medical men in regard to it.

While in every community cases of individual sickness and death, epidemics or epidemics, have been of more or less common occurrence, the lesson which they teach, as the only means of preventing them—the rigid enforcement of sanitary regulations—have quite too often been unheeded. Hence the serious fact, the truth of which no intelligent physician questions, of more or less frequent preventable deaths. That increased attention has been given to this important subject by the profession within a few years is true; that much more should be done in this direction has been made quite apparent. In every community, seeds of disease and death are abundant. From observations made both in our own country and in Europe, it has been rendered more than probable that the distribution of milk in different neighborhoods from houses where diphtheria or scarlatina has been prevailing, has been followed by the appearance of these diseases. Recent investigations have led to a rapidly growing conviction that many of our prevalent diseases have their origin in microscopic organisms, that these organisms frequently abound in both the atmosphere and in the soil: hence in modern papers we encounter such terms as "familiar tuberculosis," *Acidus vesicularis*, etc.

From the researches of Pettenkofer and others, the German and other European governments have been led to establish institutes for the promotion of hygiene in all its branches. That the result of these enterprises will well repay the expense and labor they involve can hardly be questioned. That in our own State as well as elsewhere, the whole subject of sanitation, both public and private, demands greater attention than it has received in the past, is, I think, evident; and that this attention comes properly within the province of the profession is equally so. Certainly as in a not unimportant sense guardians of the public health, we are performing quite as important a duty in preventing disease as in curing it.

It will be remembered that at our last meeting the matter of revising the code of ethics was before it, and that by vote the subject was laid on the table, though so far as I know, not with a view of calling it up again. As, however, the subject is receiving so little attention in these days, I may properly refer to it.

That harmony and mutual respect and confidence between the members of all fraternities are highly desirable is self-evident. Such are the relations of the profession as a body to the community, that its standing is to a considerable extent in the keeping

of the body. It is equally true that the good name of each member is to a greater or less extent, in the keeping of his brethren, especially his professional neighbors. That the requirements implied in these relations have been and are, as a general rule, faithfully observed, I am glad to believe; hence in all civilized communities, such is the standing of the body of regular physicians that any one may justly be proud of being deemed worthy of membership in it. Yet the experience and observation which more than forty years of professional life have afforded me, have led me to believe that cases may occur of members within our ranks, and properly occupying a position on the respectable side of the line which divides the moonshark from the regular, men commanding the respect of all who know them; good citizens and good doctors; men quite above any will to violate any civil law, but who yet are not quite up, especially when under temptation, to the requirements of the law of honor. In cases of consultation, and occasionally under other circumstances, a remark may be made which candor and honor forbid, or on the other hand, that may not be said which candor and honor demand should be. It is indeed reasonable to suppose that the occurrence of such or similar cases in the past is what led to the establishment of the code of ethics. That any direct evils have resulted from its adoption, I have yet to learn. Its evident aim, succinctly stated, is to secure that courtesy desirable in all human intercourse, and especially so in that between members of the same brotherhood. It would seem rational to expect that the effect upon his standing with the brotherhood would exert more or less of a restraining influence upon any one disposed to disregard the requirements of the code; not to be thus influenced would imply either a loss of self-respect or of respect for the body of which the party might be a member; all the objections brought against it I can but think are outweighed by this restraining influence.

I heartily endorse the sentiment expressed in the address of my respected predecessor, that "An enlightened conscience and the Golden Rule, that germ and fruitage alike of all true theology, will displace and stand far above all human instruments for the regulation and guidance of professional intercourse and conduct." The fear is that even among doctors, not every one has quite attained that height of moral elevation; but, to quote again from the same address, "Our profession, like all others, contains the

worthy and the unworthy." So long as that shall be true, the maintenance of some code would seem to be advisable. Of course, emergencies may occur where the paramount law of humanity requires action on the part of the physician, and which it would be wrong not to heed. With this qualification, both my conscience and my judgment lead me to reckon myself among the advocates of a code of ethics.

During the year just passing, as in other years, death has caused some names to be stricken from our list; among its victims was a former president of our Society. Of these, whose professional histories deserve not to be soon forgotten, notices may be expected in due time.

The President then announced the following committees:

On Unfinished Business.

P. J. Fox, M.D. P. K. Beckwith, M.D.
J. P. Chet, M.D.

On County Business.

M. Storr, M.D. L. B. Abney, M.D.
F. N. Braman, M.D.

On Resolutions.

S. B. St. John, M.D., ex officio, H. G. Howe, M.D.
R. S. Goodhue, M.D.

On Honorary Members and Degrees.

Wm. H. Mather, M.D. J. La Pierre, M.D.
Geo. Clary, M.D.

Auditing Committee.

W. W. Foster, M.D. J. Olmstead, M.D.

To Nominate Secretary.

W. C. Wills, M.D. Wm. G. Brewster, M.D.

Dr. Linsley of New Haven, moved that a committee of three be appointed by the President to confer with a committee from the

Corporation of Yale College to recommend such action as might seem expedient, with the view of dissolving the connection now existing between this Society and the Medical Department of Yale College.

The motion passed, and the President appointed as that committee, Drs. F. L. Dickinson, M. C. White, and Orlando Brown.

This committee subsequently reported as follows:

The committee appointed to confer with the committee appointed by the President and Fellows of Yale College, would report that Hon. Mr. Kingsbury presented the following certificate of the action of the corporation of Yale College, viz.:

At a meeting of the President and Fellows of Yale College, held April 18, 1884, Messrs. Mason Young and F. J. Kingsbury, a committee on the affairs of the Medical Institution of Yale College, were charged with the additional duty of prosecuting inquiries as to the legal status of the Medical Institution, and of conferring on this subject, if they think advisable, with the State Medical Society.

At a subsequent meeting, held May 16, 1884, it was voted that the same committee be authorized to agree with the State Medical Society for a dissolution of the agreement between the President and Fellows of Yale College and said Society, if upon conference with the said Society they deem it advisable to do so.

A true extract from the records.

Attest,

FRANKLIN B. DEXTER,
Secretary of Yale College.

And after careful consideration of the relations of the Medical Department of Yale College to the Connecticut Medical Society, they are of the opinion that the articles of agreement adopted in 1810 and all subsequent modifications should now be annulled. They, therefore, recommended the adoption of the following resolution, viz.:

Resolved, That the President and Fellows of the Connecticut Medical Society desire to cancel and annul the articles of agreement between them and the President and Fellows of Yale College, set forth in the act of the Legislature of the State of Connecticut, entitled "An Act in addition to and alteration of an act entitled 'An Act to Incorporate the Medical Society,'" passed at the October session of 1838, and any subsequent modifications thereof; and they hereby authorize the President, Secretary, and Treasurer of the Connecticut Medical Society to execute all such papers as may be requisite to obtain that end, it being understood that such separation shall be without prejudice to any vested interest, contract, or endowment of the College; and that any privileges heretofore possessed by the Connecticut Medical Society shall revert to the same.

F. L. DICKINSON, }
M. C. WHITE, } *Committee.*
ORLANDO BROWN, }

Dr. White, who presented the report, also said that the committee were of opinion that some revision of the charter of the Society might be necessary in view of such a radical change as that suggested by the resolution, but that the committee did not wish to suggest any action until the resolution had been considered.

Upon invitation, the Hon. F. J. Kingsbury addressed the meeting regarding the resolution. He said that within a short time extensive and important changes had been made in the course of instruction in the Medical School, entailing much extra expense, and rendering it necessary to draw upon the general funds, and that objections had been made by prospective contributors to the general fund to the fact that the money given to the College might be, in this way, partly out of the control of the College. The old union of College School and State Society was no longer useful and had become embarrassing. He urged the members of the Society to acquaint themselves with what had been done to raise the standard of education at the Medical School within the past three years.

The resolution as above was then adopted.

It being understood that some action of the State Legislature would be necessary in order to consummate the dissolution of the bond existing between the State Medical Society and the Medical Department of Yale College—on motion of Dr. Chamberlain it was voted that the President appoint a committee of one from each county to consider the revision of the charter as suggested by the report of Dr. White, and to report at a special meeting before the meeting of the Legislature.

The President appointed as this committee:

- DRS. F. S. Dickinson, Tolland County.
- M. C. White, New Haven County.
- Geo. L. Porter, Fairfield County.
- C. J. Fox, Windham County.
- R. S. Goodwin, Litchfield County.
- F. N. Braman, New London County.
- F. D. Kigerton, Middlesex County.
- C. W. Chamberlain, Hartford County.

A recess was then taken for election of *Nomination Committee*. The Fellows reported the following names:

- Beth Hill, M.D., Fairfield County.
- C. J. Fox, M.D., Windham County.
- W. R. Barthelt, M.D., New Haven County.

R. S. Goodwin, M.D., Litchfield County.
 L. B. Almy, M.D., New London County.
 M. Storm, M.D., Hartford County.
 F. D. Edgerton, M.D., Middlesex County.
 C. F. Sumner, M.D., Tolland County.

The committee appointed by the last convention to inquire into the legal status of the Society, reported through Dr. W. H. Carmalt, that the subject had been thoroughly investigated, and legal opinions obtained, and that the committee were of opinion that the legal status was not to be questioned. In support of this opinion, Dr. Carmalt read the opinion of Hon. Sir Isaac K. Baldwin as follows:—

69 CHURCH STREET, NEW HAVEN, CONN., Jan. 2, 1884.

DR. W. H. CARMALT,

My Dear Sir:—In my opinion, Sec. 5 of the Act to incorporate the Medical department of Yale College, approved March 3, 1879, and published in volume 8 of the Special Laws of Connecticut, p. 239, does not in any way affect the corporate existence of the Connecticut Medical Society. It purports to repeal the act entitled "An Act to Incorporate the Connecticut Medical Society and to establish the Medical Institution of Yale College, and all Acts in addition to and in alteration thereof." The quotation marks in Sec. 5 might seem to indicate that there were two acts to be repealed, one an act to incorporate the Connecticut Medical Society, and the other an act to establish the Medical Institution of Yale College, but the language of repeal refers to the Act entitled in both those ways.

In 1844 (Private Laws, vol. 1, p. 978) an act was passed entitled, "An Act to incorporate the Connecticut Medical Society;" but no Act is to be found entitled simply "An Act to establish the Medical Institution of Yale College."

This led me to think that there might be a "lost planet" somewhere in the shape of an Act having the double title referred to in Sec. 5; and a search through the annual session laws prior to 1854 gave me a clue by which I have at last dug it out.

The Connecticut Medical Society was first incorporated under that name in 1825.* The Act was never printed with the laws but I have procured a manuscript copy from the State records. Its title is "An Act to incorporate the Connecticut Medical Society and to establish the Medical Institution of Yale College." "An Act in addition to" it was passed in 1826, "An Act in addition to and alteration of" it in 1827 (Session laws of 1827, page 235-236), and "An Act in alteration of"

* This Act of 1825, which has never been printed, will be found in appendix "A."

the latter Act in 1832. These three amulatory Acts left matters so mixed that in 1834 the new and separate "Act to incorporate the Connecticut Medical Society" was passed, and another "Act in relation to the Medical Institution of Yale College." Sec. 5 of each of these charters repealed the Act of 1825, and all additions to and alterations of it in precisely the language employed in the Act of 1825, Sec. 6.

The draftsmen of the Act of 1829 evidently copied this language from the Acts of 1834, without knowing exactly what it meant. But it did mean, in law, the repeal of the Act of 1825 and all its subsidiary Acts.

True, these Acts had been repealed in 1834. This made Section 4 of the Act of 1829 nugatory, because useless, but it cannot, in my opinion, have the effect of making it repeal any other Acts, since no other Acts are aptly described as being repealed, while the Act of 1825 and its subsidiary Acts are thus aptly described.

The provisions of the preceding sections of the Act of 1829, which obviously contemplate the continued existence of the Society, are also plainly inconsistent with any construction of Section 4, by which it could be applied to the Act of 1834.

I think, therefore, that the Connecticut Medical Society is an existing corporation with all the powers it possessed prior to the Act of 1829.

Yours truly,

SIMON E. BALDWIN.

The report was received and the committee discharged.

The Committee on Unfinished Business reported upon Amendments to the By-Laws, proposed at the last Convention, as follows:

Resolved on the following: "All remarks made in the discussion of any subject shall be committed to writing by the person making them, either before or immediately after they are made. The Secretary shall provide suitable tablets at the expense of the Society, for this purpose." This was, after much discussion, amended by inserting the word "scientific" before the word "subject," and changing "shall" to "may" and in this form it was passed.

Resolved on the following: "No voluntary paper shall be published which has not been read before said County Medical Association, and recommended by them." This provoked much opposition, some claiming that it would cause the rejection of valuable papers. Dr. Chamberlain stated that the object was to relieve the Publication Committee of the responsibility of selecting the papers to be published. The subject was finally laid on the table on motion of Dr. Chamberlain.

Finally on the amendment that "each County Society shall appoint one of the Fellows elected to serve as a member of the Nominating Committee, and another as his alternate to act in his absence only." This amendment was passed.

Finally on the amendment to make the office of Secretary permanent, and to pay the Secretary \$50, and the Treasurer \$25 per annum. This amendment was then adopted.

Unanimously upon the amendment increasing the number of Fellows, as it was found to conflict with Section 3 of the Society's Charter.

The Committee's report was adopted, and the Committee discharged.

In regard to making the ex-Presidents permanent Fellows, there being technical objections to the form of the amendment proposed last year, Dr. Chamberlain proposed the following: "That all the ex-Presidents be incorporated into an advisory Committee to be Fellows *ex officio*, the duties of this Committee to be assigned hereafter." This was laid over for action next year.

Dr. White reported that the Committee appointed by the last Annual Convention to draft, engross, and frame resolutions expressing to the retiring Secretary the appreciation of his services entertained by the Society had performed the duty assigned them and showed a photograph representing their work. Report accepted.

Voted, on motion of Dr. Chamberlain, that the expediency of more committees on special subjects be referred to the Committee on Unfinished Business for next year.

Voted, That the annual tax of \$2 payable on and after June 1, 1884, be assessed on each member of the Society—also that 700 copies of the Proceedings be published.

On motion of Dr. White, it was voted that 1000 copies of the early Proceedings of the Society, down to 1830, be published for distribution among the members.

The motion was made that the Society meet every third year at Bridgeport, but after some discussion was voted down, it was also a motion that the Society meet every year at Hartford.

The Nominating Committee presented the following list of officers and the Secretary was instructed to cast the vote of the Society for them:

President. B. N. Comings, of New Britain.
Vice-President. E. C. Kinney, Norwich.
Treasurer. E. P. Swasey, New Britain.
Secretary. S. B. St. John, Hartford.

Committee on Matters of Professional Interest:
 N. E. Worden, J. H. Graham, E. A. Hill.

Committee on Nominations:
 F. D. Edgerton, H. W. Inell, Lewis Barton.

Committee to Nominate Professors in the Medical Department of Yale College.

C. W. Chamberlain, G. L. Peeter.

Committee to Nominate Lecturers in the Department for the Doctor.
 R. S. Goodwin, Lowell Holbrook.

Committee of Publication.
 L. W. Lyon, Secretary and Treasurer (ex officio).

Committee of Arrangements.
 H. Starrs, W. M. Hudson, J. Campbell.

Delegates.
 W. H. Holmes.

Albany.
 F. E. Beckwith.

Delegates to American Medical Association.
 T. M. Hill, L. S. Paddock, W. H. Mather, C. A. Lindsay, A. E. Adams, J. Billwell, Rufus Baker, C. F. Sumner, H. G. Howe.

Delegates to Maine Medical Association.
 W. W. Foster, W. H. Holmes.

Delegates to New Hampshire Medical Association.
 W. S. Crossfield, George Olney.

Delegates to Vermont Medical Association.
 L. B. Almy, A. T. Douglass.

Delegates to Massachusetts Medical Association.

B. W. Munroe, C. W. Carlton.

Delegates to Rhode Island Medical Association.

W. A. Lockwood, T. G. Wright.

Delegates to New Jersey Medical Association.

A. H. Churchill, J. B. Kent.

Delegates to New York Medical Association.

A. M. Hubbard, W. J. Beach.

Dr. E. P. Swamy then presented the Treasurer's Report, of which the following is an abstract:

Balance from old account,	\$618.15
Received during fiscal year,	791.28
Total,	\$1,429.33
Expenditures,	746.43
Balance in Treasury May, 1884,	682.92
Increase of receipts over 1882,	179.22
Increase of expenditures over 1882,	324.65
Excess of receipts over expenses,	44.37
Excess over balance of last year,	11.77

Amount due in Terms of 1882.

Hartford County,	Nothing.
Fairfield County,	
Windham County,	
Tolland County,	
Middlesex County,	
New Haven County,	\$28.88
New London County,	5.00
Litchfield County,	14.10
	\$48.26

The increased expenses have been largely due to the employment of legal counsel to determine the legal status of the Society, involving an expense of \$196. Also there has been an unusual expenditure in the engraving and framing of the Resolutions presented to the retiring Secretary. The excess of receipts is explained partly by the fact that certain counties have contributed

largely toward the expense to be incurred in printing the only transactions. Hartford County having sent in \$100, of which \$50 was contributed by Dr. G. W. Russell, and New Haven having sent \$50 (of which about one-fifth was contributed by Dr. M. C. White, who took the matter in charge). The further excess of receipts is due to faithful collecting by the County Clerks.

It is certainly very gratifying to find five counties entirely free from arrearages, and the other three with so little to collect.

The Treasurer's Report was referred to the Auditors, who declared it to be correct. The Report of the Auditing Committee was received and the Committee discharged.

The Committee on County Resolves reported that they had received a copy of the proceedings of the New Haven County Medical Society, against E. L. Thomson of New Haven, a member of this Society, charging him with the practice of criminal abortion and also a resolution of expulsion. They find on investigation, that the action of the New Haven Society has been in accordance with the By-Laws of the Society (Chapter iv, Section 7), and that the accusation is sustained by the legal processes had and by the conduct of the accused in forfeiting his bonds. They therefore recommended that the expulsion of Dr. E. L. Thomson be approved by this society. The report was accepted and the recommendation adopted.

The Committee on Honorary Members and Degrees reported the names of Drs. M. H. Henry of New York, and W. T. Hutchinson of Providence, R. I., to be Honorary Members.

According to the By-Laws these names come up for action next year.

Drs. T. A. Knapp of New York and Jas. B. Reeves of Wheeling, West Virginia, who were recommended by the Committee last year, were unanimously elected Honorary Members.

On motion of Dr. Chamberlain, it was

Resolved, That the report of the Committee on Examination, and the report of the Committee to Nominate Professor in Yale Medical School, and the report of the Committee on New Remedies, be referred to the Secretary.

The Convention then adjourned to meet the fourth Wednesday in May, 1885, at Hartford, or when called to a special session by the President.

S. B. ST. JOHN, M.D., Secretary.

THE ANNUAL CONVENTION.

THURSDAY, May 29th.

The second day's exercises began promptly at 9 o'clock, with the report of the Secretary, as follows:

SECRETARY'S REPORT.

The past year has been one of harmony and prosperity. Though it opened under a cloud, the very existence of the Society trembling, as it were, in the balance, the cloud has passed away and we feel that we have regained the metaphysical starting-point—the consciousness of existence.

We have received more than the usual accession to our numbers, 43 new members being reported, of whom Fairfield County sends 11, New Haven 10, Litchfield 6, Hartford 6, New London 5, Windham 4, Middlesex 1, Tolland 9.

There have been only four deaths. Prominent among these is the name of Dr. P. A. Jewett of New Haven, an ex-President of the Society, and an active, untiring worker in its behalf through many critical periods. Drs. Baldwin of Danbury, Bradsigee of Berlin, and DuBois of New Haven, were all honored members who had passed the meridian of life. The Society has also to mourn the loss of two of its most distinguished honorary members, Dr. J. Marion Sims and Dr. Willard Parker. Five removals from the State are reported, and one expulsion for criminal practices, leaving our membership at present 481—a net gain of 21.

The following is the list of the new members, with residence, place, and date of graduation:

Frank H. Wheeler, New Haven, 1882, Yale Medical College.
Samuel W. Williston, New Haven, 1880, Yale Medical College.
Charles T. Baldwin, Birmingham, 1882, Belknap Medical College, New York.
Herbert E. Smith, New Haven, 1882, University of Pennsylvania.
J. M. Benedict, Waterbury, 1882, University of New York.
W. C. Welch, Ansonia, 1877, Yale Medical College.
Edward W. Smith, Meriden, 1882, McGill Medical College.
Frank B. Tuttle, Naugatuck, 1863, Yale Medical College.
Benjamin L. Lambert, New Haven, 1883, University of New York.

- Clarence L. Fitch, New Haven, 1881, Dartmouth Medical College.
 W. P. Stetson, Norwich, 1880, College of Physicians and Surgeons, New York.
 G. M. Bassett, Norwich, 1875, College of Physicians and Surgeons, New York.
 Karl Mathewson, Uxbridge, 1870, College of Physicians and Surgeons, New York.
 W. T. Brown, Lisbon, 1882, Harvard.
 F. J. Beckwith, New London, 1882, Harvard.
 Henry S. Ous, Hartford, 1882, Harvard.
 George Lenny, Torrville, 1875, National Medical College.
 E. B. Thompson, Hartford, 1882, University of New York.
 C. D. Alton, Hartford, 1875, Bellevue Medical College.
 Oliver C. Smith, Hartford, 1883, Long Island Hospital College.
 L. M. Cronin, New Britain, 1881, University of New York.
 A. A. Holmes, Bridgeport, 1868, Harvard.
 W. B. Cogswell, Stratford, 1881, Bellevue Medical College.
 Jacob May, West Stratford, 1876, Rush College, Chicago.
 William H. Andrews, Brookfield, 1882, University of New York.
 Charles C. Godfrey, Bridgeport, 1882, Dartmouth Medical College.
 E. E. Snow, Danbury, 1874, Jefferson Medical College.
 Peter H. Lynch, Danbury, 1882, University of Vermont.
 Edward M. Smith, Danbury, 1882, College of Physicians and Surgeons, New York.
 George A. Gilbert, Danbury, 1882, College of Physicians and Surgeons, New York.
 August Stratton, Danbury, 1883, University of New York.
 E. M. Beardsley, Monroe, 1845, Yale Medical College.
 Charles N. Allen, Moxey, 1881, Burlington.
 Fred. W. Chapin, Pomfret, 1882, University of New York.
 T. R. Parker, Willimantic, 1880, University of New York.
 N. W. Sanborn, Central Village, 1880, Dartmouth.
 " " " " 1881, University of New York.
 W. H. Binley, Roxbury, 1881, Yale Medical College.
 C. S. Brower, West Cornwall, 1880, College of Physicians and Surgeons, Baltimore.
 Eugene C. French, Walcott, 1887, Ann Arbor, Mich.
 T. Meredith Maxwell, Litchfield, 1875, University of New York.
 William L. Platt, Torrington, 1881, College of Physicians and Surgeons, New York.

Henry S. Noble, Middletown, 1871, College of Physicians and Surgeons, New York.

Acting under the instructions of the last Annual Convention, your Secretary sent to each member of Congress from this State a copy of the resolutions passed at the Convention relative to the necessity of providing a fireproof building in Washington for the preservation of the Army Medical Museum and Library of the Surgeon-General's office, and he received from each of our Representatives and Senators assurances that the project met with their cordial approval. Since then a bill has been introduced to effect this object, and it will probably pass.

In accordance with the instructions of the last Annual Convention, your Secretary memorialized the Legislature to pass a law requiring that all patent and proprietary medicines sold in this State should have the working formula by which they are made plainly printed on the label.

Circulars were sent to the profession asking for testimony to the danger of allowing the free circulation in the community of soothing syrups, worm lozenges, etc., containing poisonous ingredients, and many responses were made showing that dangerous conditions and even death had followed their use. This testimony was laid before the Judiciary Committee of the Legislature, and in presenting it and arguing the advisability of the law the Secretary had the able assistance of Dr. Burke of South Norwalk. The bill was adversely reported by the committee mainly upon the ground of injustice resulting to druggists who had large stocks of these medicines on hand, and not, so far as could be learned, from any disbelief in the danger alluded to.

At the last Annual Convention the Secretary was instructed by our resolution to print the Transactions and Proceedings of this Society for the first twenty-five years of its existence and distribute the same to the members. By another resolution, a few minutes later, he was directed to correspond with the secretaries of the county societies with regard to publishing the literary papers and transactions of the Society of the early years up to 1870, and to learn if the county societies would share the expense of the same, and report the answers to this Convention. Inasmuch as the first resolution referred to the transactions of twenty-five years, and the second to thirty-eight years, and as it was not clear how the

payment was to be provided for, until the present meeting, when the answers from the various county societies should be heard, it was decided, upon consultation with several members, that it was best not to publish anything before the present meeting, but to arrange the material and get the printers' estimates. This estimate is for the Records of the Proceedings, lists of officers, etc., about \$290. If we add to this such papers not incorporated with the proceedings, but which were published separately by the Society, and which are of interest, the expense is increased to about \$300.

Hartford County Society has pledged to contribute \$100, one-half of which was the contribution of one member. Dr. White of New Haven, who was charged with the responsibility of collecting the New Haven County contribution, writes that we may count on \$100 from there. Fairfield County Society, at the Spring meeting, voted \$25, so that we are sure of \$725. The other county societies have not been definitely heard from on this point, except that the Secretary has verbal assurance, in some cases, that they are ready to contribute their share. In view of these statements, made before the meeting of Fellows yesterday, the Secretary was then instructed to print 1,000 copies for distribution.

The Treasurer's Report compares *very favorably* with that of the past year. Five societies report no arrearages for dues of 1883, and the total for the remaining three societies is \$48.20. The County Clerks are entitled to the thanks of the Society for their labors in this direction.

The President-elect not having arrived, Vice-President Seth Hill was called to the Chair while the President read the Annual Address. Subject, "The Medical Profession, and its claims to the Respect and Gratitude of the Community."

The Committee on matters of Professional Interest, reported briefly through the Chairman, W. C. Wile, and presented some interesting cases which were referred without reading to the Committee of Publication.

Drs. English of New Jersey; Burdette and Richardson of Mass.; Huntington of Vermont; Hammond of New Hampshire; Schwartz and Smith of Rhode Island, delegates from the Medical Societies of their respective states, presented their credentials and were received by the Society. Most of them responded expressing

their gratification at meeting with us, and their hope that our delegates would be able to meet with them.

Dr. N. E. Worlin of Bridgeport, read an elaborate and scholarly Dissertation on "The Germ Theory of Disease."

Dr. W. H. Cushman of New Haven, gave the history of two interesting surgical cases, one of Stone in the bladder, treated by litholapaxy—the other of Fracture of patella, treated by wiring the fragments together. He also showed two patients, one of whom had been operated on to relieve deformity resulting from hip-joint disease; the other had submitted to the removal of half of the tongue for malignant disease. These cases will be found detailed further on.

Dr. Beckwith referred to a case of ulcerating mucous patch of the labium—illustrating his remarks with a colored drawing by Dr. Leighton. Dr. Beckwith also read a letter from Dr. Fordyce Barker of New York, relative to the Sims Memorial Fund, and called the attention of the Society to the subscription paper circulating among the profession in Connecticut.

Dr. E. W. Mathewson of Durham, read an Essay entitled *MENINGITIS FERE YRANS ADO.*

Dr. G. W. Harris of Old Lyme, read an Essay on *STRABISMUS REO HEMIA.*

Dr. F. M. Wilson of Bridgeport, read an Essay entitled *SEVERE PERS CASES OF CONVULSIVUS—classified and tabulated.*

Dr. Geo. H. Packard of Hartford, read an Essay on *THE EARLY DIAGNOSIS AND TREATMENT OF FORT'S DISEASE OF THE SPINE.*

Dr. Ambrose Boardley read an Essay on *MALARIAL DISEASES, CHIEFLY WITHIN QUININE.*

The following papers were then read by title, and referred to the Committee on Publication:

Identity of Diphtheria, Dr. Lewis Barnes, Oxford.

Summer Health Resorts, Dr. B. D. Gilbert, Fair Haven.

House Drainage, Dr. A. W. Leighton, New Haven.

Pathological Significance of Air in the Blood-Vessels, Dr. M. C. White, New Haven.

Use of Krysipelas following leech bites, and complicated with suppression of Urine, Dr. G. W. Avery, Hartford.

Case of Gloma Retinae, Dr. W. T. Barco, Hartford.

Case of Pityriasis, Dr. A. E. Abrams, Hartford.

Climates of California, Dr. A. Shew, Middletown.

Thrombosis and Embolism, as sequels of Typhoid and Adynamic Fevers, Dr. J. G. Porter, New London.

Woman and her Bed in Parturition, Dr. K. E. Coats, Mystic Bridge.

The Committee to Nominate Essayists reported the following names:

C. W. Chamberlain, Hartford County	
T. H. Whimston, New Haven	—
J. J. Berry, Fairfield	—
A. T. Douglas, New London	—
C. J. Fox, Windham	"
O. Brown, Litchfield	"
G. W. Burke, Middlesex	"
A. R. Goodrich, Tolland	"

The Society then adjourned for the annual dinner at the Athenæum.

S. B. BR. BROWN, Secretary.

PRESIDENT'S ADDRESS.

Although, during the past year, death has reaped our ranks, and taken from us some who, when living, shared in the labors and contributed to the honors pertaining to our order, I congratulate you on the good Providence that permits so many and under such favorable circumstances to assemble at this our time-honored annual gathering.

For a brief time I invite your attention to some thoughts on the *medical profession and its claims to the respect and gratitude of the community.*

Of the multifarious duties essential to the well-being and progress of human society a broad and obvious distinction exists between those involving mainly muscular or mechanical labor, and those of professional life. While the one class in pursuing their vocation are thereby more likely to secure a healthy physical condition, the other, in addition to exertions made on the muscular and nervous system, act under the weight of a grave responsibility and of labor largely intellectual and on that account more exhausting.

Of the three so-called learned professions, that of medicine involves many annoyances and discouragements peculiar to it. While the preacher and the lawyer always have among their auditors those who are capable of properly estimating the merit of their performances, it is not so with the doctor—his work is in the privacy of the sick-room, and implies both in its nature and possible results a weight of responsibility not involved in most other pursuits; among the possibilities may be incidentally mentioned that of incurring censure, however justly, for he may perform the duty, from the ignorance of the censors. Every physician in the course of his professional career encounters very many cases of

so grave a nature as to render the issue doubtful, and where the life of his patient is for the time entrusted to his keeping, and the preservation of which is of immeasurable importance to his or her family, as the case may be, and perhaps to the community as well. A just appreciation of the position in which he finds himself must be necessarily more or less depressing, and for which a fee however liberal must be a very inadequate compensation.

Such is the nature of his calling that, when most exhausted from excessive labors performed during seasonable hours, he is for obvious reasons, more likely to be called at night, and hence deprived of the recuperative influence of what Shakespeare not inaptly calls "nature's soft nurse"—sleep: this, too, whether in sunshine or storms, and when no other compensation can be expected than the consciousness of having relieved human suffering, and perhaps saved a human life.

The necessarily irregular calls for his services preclude to a large extent the possibility of systematizing either his time or his labors, and are among the annoyances pertaining to his calling, and from which those pursuing the other professions are for the most part exempt.

But there is a brighter side to the picture. Called, as he is daily, to see the operation of natural laws upon the human organism, he is necessarily a student of Nature; a student in a field of incalculable interest and importance to the medical man, in view of his relation to the community; a field which, while it furnishes instruction, is at the same time interesting and elevating, and he who explores it the most thoroughly is on that account the better qualified to cope with and to subdue disease. Those branches which may be considered collateral, a knowledge of which is, in a degree at least, essential to a proper medical education, offer themes for profitable study and reflection aside from their strictly medical relations. In the 200,000 different species of plants which, according to the estimate of Humboldt, are to be found on our globe, the botanical student not only explores a department of the works of the Creator pre-eminent for beauty and variety, but discovers relationships not before dreamed of; a department, but for which, animal life could not be maintained; while from the same source, the medical botanist finds that many of the most potent and useful medicaments are derived, and that without them, his power over disease would be seriously curtailed.

Through the mineral kingdom, and especially through chemistry, our materia medica is vastly enriched, and offers interesting as well as profitable fields for investigation; familiarity with these departments is equally important in view of their medical relations.

Having thus briefly glanced at the darker and brighter side of medical life, I proceed to another branch of my theme.

It may be affirmed without hesitation that no class of the human family furnishes a history in all respects more honorable or which affords stronger grounds on which to base a claim for its gratitude than that of the medical profession, for though at the cost of mental and physical fatigue, they are expected to be, and usually are, ever ready to respond to the call of suffering humanity; and for from one-fourth to one-third of the service thus rendered, they receive no pecuniary compensation. Whenever communities have been invaded by deadly epidemics, there have been physicians ready to abandon their homes and their business and fly to their relief, and this too not rarely at the sacrifice of their lives. So it has been from the time of Hippocrates who labored for the relief of plague-stricken Athens, more than two thousand years ago, down to the present time. The claims here made find ample confirmation in the history of the epidemics which, a few years since, invaded some of the cities of our Southern States. While this practical sympathy, to the honor of our race be it said, was not limited to the profession, it is nevertheless true that the duties they assumed were the most trying and most responsible. They voluntarily assumed a danger from which many living in the cities invaded and not prostrated by the pestilence made their escape. If this be not a practical exhibition of philanthropy and heroism, in the nobler sense of the term, I know not what is.

The part which the profession has borne in the promotion of the various humane enterprises of modern times, justly entitles it to no small share of respect and gratitude.

Mainly through the influence of the medical profession within a comparatively few years, institutions for the training and elevation of that most unfortunate and frequently vicious portion of our race, the imbeciles, have been established in several of our states. Through the mental and moral training afforded by these institutions, many who would otherwise be a burthen if not a pest to society, have been so far elevated as to be competent to care for

themselves, and in their sphere become perhaps useful members of society.

Another and much more numerous class of unfortunates, the insane poor, afford an illustrious example of the more enlightened views prevalent among the reforms that characterize the present age. Within the memory of many now living, nearly if not quite every almshouse in our State, and other States as well, contained one or more of this class confined in cages, not infrequently in chains, and receiving a treatment better befitting wild beasts than human beings; a treatment that but for an influence upon public sentiment originated primarily and chiefly by the medical profession might have been continued to the present day. A change in the treatment of this unfortunate class, which not only secures physical comfort to them, but restores the reason of thousands who under the old order of things would be, through life, mental wrecks, is, of itself, enough to render our age an ever memorable one, and justly entitles those who have been influential in bringing it about to both honor and gratitude. Nor should it be forgotten that the relatively large number of cures effected in these cases results not only from a more humane general treatment, but very much from the skill of those who have the professional care of them, and who are, of course, medical men.

In every community, savage or civilized, comparatively few families have escaped the woes resulting from the invasion of their circles by the demon intemperance, the victims not infrequently being those who, from natural endowments or culture, or both, might have been useful members of society. Within a few years, mainly through the influence of medical men, asylums for the restoration of such cases have been established, and, although hitherto with but partial success, enough has been accomplished to command the respect and gratitude of every good citizen, and to justify the prediction, that, with a larger experience and improved modes of treatment, a larger success will be attained. Certain it is, I think, that neither reason nor philanthropy will allow that an enterprise of such transcendent importance shall languish for the lack of more efficient support than it has yet received.

Cases of criminal malpractice, secret poisoning, and similar crimes, are in these days so numerous as to occupy much of the time of our criminal courts. The question of guilt or innocence in these cases depends mainly upon the result of investigations

made by medical men, and through them many hundreds suffer the penalty which justice demands, which they would have escaped but for such investigations. The history of forensic medicine furnishes striking evidence of the great obligations society is under to the profession, both as to protection against unjust crimination, and in establishing evidence of guilt when innocence is pleaded.

Unfortunately, in not a few cases, the question of innocence or guilt is not of easy solution, and hence alibis differ. When so eminent a lawyer as Lord Erskine acknowledges that he questioned a man who was really insane for nearly a day without developing the least evidence of his mental condition, it is not strange that it should be so. That, from the difficulty here suggested, many have been unjustly executed is beyond question. Against the occurrence of events so much to be deplored, obviously about our only safeguard is the medical profession, and this safeguard is the more reliable as the science of medicine is advanced.

While it is not to be denied that, in past ages especially, much in the treatment of disease has been the suggestion of mere superstition, and that, only about two centuries since, a king of England, in his last sickness, "had forced into his mouth a bathosme volatile salt extracted from human skulls," considering how little was, or indeed, is known of morbid matter acting on that inscrutable something we call the vital principle, it is not strange that it should have been so. Still, more than two thousand years ago lived he who is called the father of physic, Hippocrates, who spent his life in studying diseases by closely observing their various phases, and deducing useful lessons, and, as a consequence, improved modes of treatment therefrom. Among his disciples from that day to the present, there have not been wanting able, diligent, and patient investigations of diseases, leading sometimes, perhaps, to erroneous views as to their pathology, yet resulting in more successful modes of treating them, as statistics bearing on the question abundantly show. For example, in a report on the vital statistics of Europe in the latter part of the sixteenth century, the average duration of human life was only eighteen years; one-half of the population died under the age of twelve years; from a report at about the middle of the present century the average duration of life was forty-three and seven-tenths years. Be-

turns from the city of London, made about a century and a half since, showed that about sixty per cent. of the children died before attaining their fifth year; a century later the percentage was reduced to somewhere between thirty and thirty-five. In the city of Geneva in the sixteenth century one in twenty-five died annually; in the nineteenth, one in forty-six. Out of the same population in Great Britain from seventeen hundred and twenty to seventeen hundred and thirty, there died one thousand and sixty-eight; from eighteen hundred and fifteen to eighteen hundred and twenty the number was six hundred and twenty-three. There is little reason to doubt that at the present time the rate is still less, nor that similar statistics of our own country, if we had them, would show an equally diminishing death-rate.

But valuable and important as have been the advances in the treatment of disease in past ages, it is in times comparatively recent that discoveries have been made which challenge the admiration and gratitude of the civilized world. For a thousand years prior to the latter part of the past century, populous places had been subject to frequent visitations of death-dealing epidemics of small-pox, when Edward Jenner happily discovered that vaccination was an effectual protection against this most loathsome disease—so effectual, indeed, that were it practicable to make fully available its protective power, it would well nigh banish the old-time scourge from the earth, and as it is, it has rendered the disease of comparatively rare occurrence and but little to be dreaded. It is no hyperbole to assert that it is impossible, adequately, to estimate the magnitude of this boon to humanity. It certainly justifies the remark of Currier, that "if vaccination were the only discovery of the epoch, it would serve to render it illustrious forever."

Only less important is the more recent discovery that chloroform and sulphuric ether when inhaled, produce complete anesthesia. That further investigation will increase the list of articles of the *matéria medica* possessing this valuable property is not improbable. While this property of the articles mentioned contributes immeasurably to the diminution of human suffering, it on that account is to a degree curative also. By means of this, combined with that other recent advance in treating human ailments, antiseptic medication in cases requiring serious surgical operations, hundreds of lives are and will continue to be saved, which would not be, under the old modes of treatment.

Although in this country candidates for medical degrees are very properly required to pass an examination in the various branches embraced in a medical education including surgery, yet by a law of our nature, most persons have a natural or acquired aptitude for labor in particular directions; hence both the science and practice of medicine have been more rapidly advanced by individual investigators, making particular diseases the subject of special study, notwithstanding what has been or may be said against specialists. The Roman maxim *non estis potestati omnes* is as applicable to medicine as to labor in all other departments of science or the arts.

The investigations of recent times render it exceedingly probable that many of our prevalent diseases have their origin in specific germs, that even articles which find their way to our tables are sometimes the media through which these germs are distributed through the community. It has long been a prevalent belief that preventable deaths are occurring in all communities, some estimating them as high as ten per cent. The recognition of these facts implies an important duty on the part of the medical profession, and has led to increased attention being given to hygiene, both public and private. Indeed, what has already been accomplished in this department, while it justifies the claims for gratitude on the part of the public, warrants the belief and prediction that human life will be safer and consequently worth more by the diminished prevalence of the whole class of zymotic diseases through the labors of medical men. Quite sure I am that they will not be found recreant to the discharge of so important a duty, in the time to come.

Again, for reasons other than those based on the discharge of duties strictly professional, it may be observed that our profession deserves well of the community. They are active and influential patrons and supporters of educational enterprises, always to be found on the side of law and order, usually promoters of reformatory movements, and if not active supporters of, rarely hostile to religious efforts and religious organizations upon which the well-being of society so largely depends. The public are largely indebted to a former honored but now deceased member of our Society for a work promotive of that useful branch of knowledge, too much neglected in our systems of popular education, human physiology.

So many and important have been the advances in the arts and sciences that the present century will ever be a memorable one in the history of human progress. It is no more than a just claim, that the medical profession has contributed its share toward making it so.

With a more copious medical literature, and the more definite pathology and higher order of instruction in our medical schools which characterize these latter days, the claims of the profession to the respect of the community are increased. As tending to secure this respect, and as a duty we owe the profession, no apology is needed for the suggestion that we should in all suitable ways advocate a higher standard of preliminary education on the part of medical matriculantes. Although I would not of course claim that the ability to conjugate a Latin or Greek verb is necessary in order to become a good doctor, yet the study of these languages tends to the invigoration and discipline of those mental powers which professional studies and practice call into exercise. It also enables one to use his own language with more accuracy and precision. Again, for obvious reasons, in all the different countries where medicine is prosecuted as a science, it is desirable that medical formulae should be expressed in some one common language; by universal consent the Latin has been adopted for this purpose. Still farther, the two languages, Latin and Greek, are, and undoubtedly will continue to be, the source whence the technical terms, which progress in the arts and sciences makes necessary, are derived.

Medical diplomas are usually, if not always couched in the Latin language; that those receiving them should be able to interpret them would seemingly be eminently proper.

That some knowledge of chemistry is indispensable in prescribing is obvious; and some familiarity with botany, if not equally important, is certainly a desirable qualification.

There seems to be an impression more or less prevalent in many communities that the body of regular physicians are blinded by prejudice, and that professional bigotry leads them to reject all remedies or modes of treatment originating outside of their own ranks; this impression is largely fostered by the army of irregulars. While a reasonable conservatism in so important a matter as treating diseases is an obvious duty, to show the groundlessness of this impression, it is perhaps sufficient to cite the facts, that we

are indebted to a Turkish admiral for the original formula for that useful surgical preparation, the blue pill; to a New England clergyman for the lobelia system as a remedy for asthma; and to the mistake of a planter's servant for that, in certain cases, very efficient and valuable remedy, the *gelsemium sempervirens*.

Although medical adventurers find, in most communities, some who through ignorance, prejudice, or fondness for novelty, are easily captured, I believe it is true that the regular profession have, to a large extent, both the respect and confidence of the more intelligent portions of these communities. Indeed when we consider the learning, the practical experience and accumulated wisdom of ages embodied in it, it would be strange if it were not so. In cases of reluctance to award this respect, the next best thing is the consciousness of deserving it.

At no age in the history of medicine has its study been more diligently or ably prosecuted than at present. Through advances in pathology, the discovery of new therapeutic powers of the older articles of the materia medica, and the addition of new ones thereto, diseases are being more successfully treated than ever before. That these causes will in the future result in farther achievements in the same direction, cannot be doubted.

While between wars, rebellions, and assassinations, no day passes in which one or more human life is not destroyed by violence rather than by disease somewhere on the globe we inhabit, the physician, on the other hand, is employed in mitigating human suffering, or saving human life. Although living under the irreversible law that all organisms must undergo that change which we call death, the medical man, by relieving suffering, and extending the duration of life, is increasing the sum total of its usefulness and enjoyment; a noble, and when honorably pursued, exalting vocation. If the prosecution of his calling involves, as it inevitably must, mental and physical fatigue, sometimes unjust censure from ignorant critics, and often occasion to lament the impotency of his art, he may, if faithful to the discharge of his duties, find solace in the reflection that he has performed an important part in promoting the welfare of his race.

REPORT
OF COMMITTEE ON MATTERS OF PROFESSIONAL
INTEREST IN THE STATE.

The Committee on Matters of Professional Interest respectfully presents the following reports from County Societies, and cases of interest.

W. C. WILE, M.D.,
T. A. GRANNISS, M.D.,
E. C. KINNEY, M.D.

TOLLAND COUNTY.

To DR. W. C. WILE,

Chairman Committee on Matters of Professional Interest.

DEAR SIR: The following communications have been sent to me for your committee.

DR. S. G. BISLEY, *Reporter.*

EPIDEMIC OF MEASLES.

In answer to your request for contribution to the Connecticut Medical Society, I will state that we have had in this vicinity the greatest epidemic of measles during the past winter that we have had in many years. It was brought here by a transient person who gave it to others, and very soon it appeared in the schools, on the street, and other public places, until nearly every child and adult liable to it had the disease, except in instances where parents kept their children from contact with infected ones, disregarding the old tradition that every child must have the measles, and the sooner the better. This barbaric idea that children are to have

certain contagious diseases works great harm, and many little innocents lose their lives annually by being purposely exposed to the exanthematic eruptions of childhood. People should be taught that the above diseases do not generally originate *de novo*, and that isolation of the sick from the well is the important thing.

In Massachusetts no child is allowed in school who cannot show a certificate from the family physician that the danger of infecting the school is past, whether it is the child who has been sick or a well one from a family where contagion existed. As far as I have observed, this regulation is well enforced, backed by the right public sentiment. These are among the dangers foreseen by physicians and the intelligent class, which could be nothing after exposure. There is not a physician in the State but can call to mind cases of criminal carelessness of the lives of the well by the sick or their nurses. The precaution needed is that by which other dangers are avoided. The mother sees danger to the child when taking its first steps, if it approaches the hot stove or the stair, but she does not see so plainly many times the danger that may be lurking in the sick room of a neighbor, or if seen, a fatalistic belief often relieves them of a sense of responsibility.

We do not find fatalism so universal here as in the East, but it exists among the ignorant classes: hence the difficulty which we meet in keeping the well from the infectious sick. These people say if a child is to have scarlet fever, it will have it, no matter how carefully they try to avoid it. If it's not to have it, it may go into the sick room and escape as easily as Shadrach and his companions escaped from the furnace.

One thing is certain, that during an epidemic this belief among a few is liable to make a lively time for the community as well as the physician.

OSTEO-SARCOMA OF UTERUS

I will mention a case which may be of interest. Mrs. S. B. died Oct., 1883, of a tumor weighing 22 lbs., having for its pole the fundus of the uterus. In its growth it had taken the form of the upper part of the pelvis, and posteriorly there is a depression corresponding to the prominence of the lumbar vertebra and promontory of the sacrum. It is fibrous, and encased in an osseous shell, and where it came in contact posteriorly and

below where its weight rested within the rim of the pelvis it is very smooth, while its frontal portion is somewhat rough and medulated, and closely adherent to the peritoneum over a surface of some extent. I have sent it to Prof. M. C. White of Yale Medical College, who placed it among other pathological curiosities in the College Museum, classifying it, after examination, as an Osteo-Sarcoma or Fibroma. It took its form while in its fibroid or plastic state, and subsequently received its covering of bone, which is perhaps one-half an inch thick in places, entirely covering the tumor with a few laminae, radiating towards the center. At the autopsy I removed the uterus and ovaries; they seemed quite normal, though the uterus was somewhat elongated. The duration of the growth of the tumor was 25 years. Subject aged 57 years; 5 years after discovery of tumor, had an abortion; the tumor then had reached one-half its full growth; menstruated till 54 years of age. I advised an operation many years ago, but she would not consent to it. Family history good. Her suffering was principally from its weight and the pressure upon surrounding parts, which at last caused sphacelus and sloughing about the pelvic region and edges of the limbs.

STAFFORD SMITH.

C. B. NEWTON.

A CASE OF OPIUM POISONING SUCCESSFULLY TREATED WITH INFUSION OF COPPER.

The popular and careless administration of the various preparations of opium, especially to children, and consequent liability to frequent accidents from their use, renders the results of experience with antidotes, that are safe, and at the same time efficient, of interest and value.

Soon after 8 o'clock on the evening of March 31, 1884, a lady decided to give her child, a strong boy two years of age, a dose of Tinct. Iliac as a remedy for a slight diarrhea. Instead, she gave by mistake, a dram, at least, of Laudanum—"more than a small teaspoonful," as she expressed it.

After midnight, she discovered the child in a convulsion. I was immediately summoned, and arrived about 1 o'clock A. M.

Found the patient in a state of perfect torpor. Respiration gasping, infrequent, and irregular, surface quite cool and moist, pulse quick and almost undetectable, showing the stage of depression had been reached. The pupils were closely contracted and insensible to light,

and the muscular system perfectly relaxed. In a word, he was almost dead.

I first tried fagellation with a wet towel and then with the bare hand, but without result.

As deglutition was out of the question, I ordered as strong an infusion of coffee as possible to be made, and attaching the female needle to a Davidson syringe, injected a half-full per rectum. This was retained.

We were rubbing limbs and body incessantly till he was evidently falling, respiration becoming more infrequent and gasping, and the radial pulsation ceasing.

After a short cessation respiration became entirely suspended. I immediately resorted to artificial respiration by Silvester's method, and was soon rewarded by a return of the gasping, uncertain respiration, and feeble pulse.

The artificial respiration was continued, from necessity, for an hour or more, almost without interruption. Meanwhile a syringe-full of the very strong infusion of pure coffee was thrown into the rectum every half hour, also occasionally a teaspoonful or two of whisky diluted. As the breathing became so far reestablished as to allow of suspension of artificial assistance, the pulse gradually increased in strength, I considered, seriously, the advisability of administering belladonna, in small and repeated doses, and did exhibit one drop of Squibb's *Fid. Ext.* is one of the coffee emmas, but as there were already signs of increased vitality, and as I desired to test thoroughly the coffee treatment, the dose was not repeated.

The coffee enemas and external friction were continued steadily until 7.30 o'clock a. m., when the little patient moved his toes slightly and sluggishly upon stimulation of the sole, and shortly after, partially opened his eyes, when his mother shook him and called his name loudly.

The narcotic effects of the almost fatal dose steadily decreased, and at my call in the afternoon, reaction seemed to be fairly established. The pupils were of normal size and responsive to light.

I was a little surprised to find a temperature of 102.7° F., and hardly knew how to account for it unless it was the result of excessive reaction. This may seem more probable since the patient oriented and defecated freely later in the day.

On the day following, the temperature was normal and no effects of the recent systemic trouble apparent, except the unavoidable debility.

With great pleasure I place this case of recovery from the most profound narcosis in a child, to the credit of this simple remedy, since the efficacy of the atropia treatment is doubted by so many and really is so risky in young subjects.

The number of fatal and almost fatal cases of poisoning in very young children, caused by doses of gr. li to ix of *Tinct. Opii*, and correspond-

ingly minute doses of the other preparations of opium, are sufficiently numerous to make it very desirable to bring into general and thorough use, as almost harmless and very effective remedy.

E. P. FLINT, M. D.

SOUTH COVENTRY.

A CASE OF LEFT LUMBAR COLICOMY.

Mrs. H., sixty years of age, married, and the mother of four children, had of late years been of constipated habit, but not of sufficient severity to induce her to seek medical advice; aside from this she had always been well. On the twenty-second of July, 1882, the writer was summoned to attend her, found her lying on the lounge, complaining of pain in the bowels, and reported having taken two full doses of Salts and Senna and "Casteria," with no operation of the bowels since the sixth, that being sixteen days previous. There was no constitutional disturbance, and abdominal palpitation failed to discover any marked tenderness or any tumor of the abdomen. The patient said "all she wanted, was something to move the bowels." Prescribed one-teenth grain of Chamberlain's Elixerium to be taken every two hours, until the bowels moved. The following day she reported two operations of the bowels after taking four of the prescribed doses. The next day found her about the house feeling as well as usual. Was called again on the twenty-seventh and found much the same condition as on my first visit, the bowels not having moved since the above cathartic was taken. Again prescribed the Elixerium to be taken the same as before, and to be accompanied by large rectal injections.

Twenty-eighth.—Has taken six doses of the Elixerium and the injections have been used as directed, with no change in the condition of the bowels, slight abdominal tenderness, but not a great deal of pain present. Prescribed Pil. Podophyllin Comp., one pill every two hours.

Twenty-ninth.—No operation of the bowels, and rather more pain. Temperature normal, pulse slightly accelerated; now prescribed Croton Oil, one-half drop doses, to be taken every hour until an operation was produced, or until eight doses have been taken.

Thirtieth.—The bowels have not moved, but after taking the sixth dose of Croton Oil, vomiting set in, the vomitus was as truly stercoraceous as possible in odor, color, and appearance. To-day directed the rectal injections to be pushed to the largest amount that could be borne, gave no cathartics; to take one grain of Quinine every six hours.

Thirty-first.—The injections failed to produce the desired effect. Rectal examination reveals an apparent obstruction about six or seven inches above the anus.

August 1st.—No change in her condition. Was seen to-day in consultation with Dr. T. M. Hills of Williamantic; he advised enemas of mustard-water and iodo-carm, through flatus catheter and give Hyoscymus and Belladonna, all the patient will bear. Vaginal examination discovers nothing bearing on the case. Catheter can be introduced about seven inches, when it meets the obstacle referred to above, which gives to Dr. H. the sensation of entering a fold of the intestine.

August 2d.—The mustard-water injections cease away, bringing nothing with them, and this evening vomiting again set in, being of the same stercoraceous character as before. Slight delirium present, resulting from the Belladonna taken. The system is now becoming intolerant of injections, will bear about six ounces of fluid. There being but little real constitutional disturbance, advised desisting from active treatment for the present; continue the Quinine and give four injections daily, with turpentine stupes to the abdomen to relieve tympanites.

Aug. 8th. The condition remains unchanged. Now commenced applying electricity, one pole externally to the abdomen following the course of the large intestine, the other inserted in the rectum. Continued the electricity for a week, together with injections of milk and two injections of glycerine. From this time to the 25d of August, the treatment was expectant, with the exception of aspirating the bowels for the relief of the tympanites on the 12th and 18th, which afforded, however, but slight relief. On the 22d, the hand was introduced into the rectum, after Sims's method, but the obstruction could not be removed. The tympanitis was now extreme, and the patient began to show unmistakable signs of failing, and the operation of colotomy was advised as a dernier resort.

In consultation with Dr. Newton on the 24th, the conclusion was reached that unless relief from the obstruction was obtained, the patient would survive but a short time. The consent of the patient and her friends being obtained, the following morning was appointed for the operation of colotomy.

Aug. 25th. The patient passed a night of discomfort from the distention of the abdomen and embarrassment of respiration, diarrhoea. The temperature ten A. M. is 101°, pulse 128, the patient restless and confident. The operation was performed by the writer, assisted by his brother, Dr. Smith of Marion, Mass., and Dr. Clark of Stafford Springs, Dr. Newton being unavoidably absent. The patient was etherized and placed upon a table on her right side, with a pillow beneath her loin. The anterior and posterior superior spinous processes of the ilium were made out, the distance between them measured, and a transverse incision five inches in length was made, the center of which was exactly half an inch behind the mid-point between the anterior and posterior spinous processes of the ilium. Immediately beneath the skin was found a layer

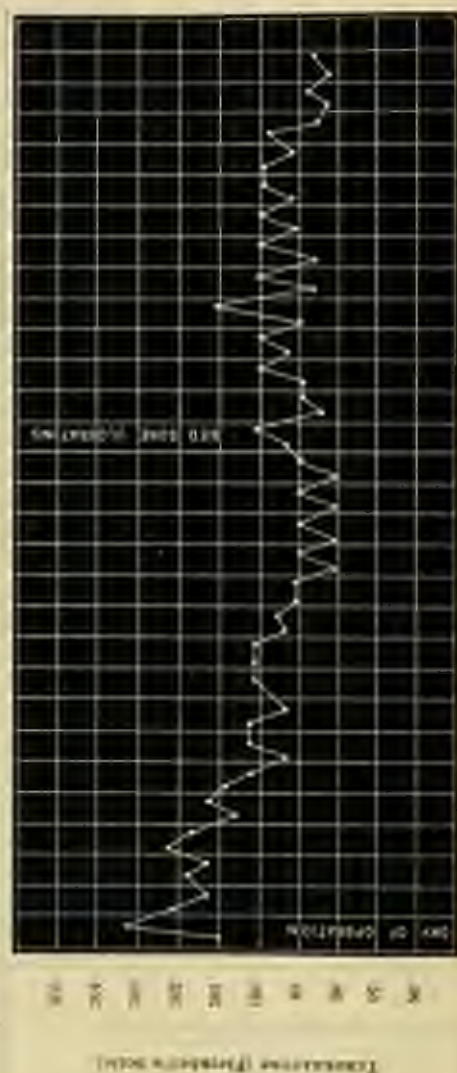
of adipose tissue two inches in thickness, which necessitated making the incision in the skin an inch longer; the muscular layers were so slight as to be hardly apparent; the layers of areolar adipose tissue lying immediately upon the intestine were loaded with fat; great care was used to make the incision of the deeper structures of the same length as that in the skin. The gut was easily found, two long silk sutures armed with a needle at either end were passed through it parallel to the sides of the wound, the four needles were passed through the skin, two at the upper and two at the lower part of the wound; the gut was then opened, the loop of the suture drawn out and divided, and the gut made secure to the four points where the needles were passed through the skin; brownish colored semi-solid fecal matter passed forth from the opening the instant it was made, and continued until an ordinary chamber-vessel was filled. The edges of the skin at the upper and lower angles of the wound were brought together with sutures. The patient rallied well from the operation; at nine p. m. her pulse was 126, temperature 102.4°.

Aug. 26th. Slept well all night, the abdomen now perfectly flaccid, general condition good; the fecal fistula is still discharging the contents of the bowels. There was no regular movement of the bowels, but the loose flow away more or less all the time. From this time to the 4th of October the case went on uninterruptedly, when she had a spontaneous discharge of blood from the rectum, the first natural movement of the bowels for nearly three months. The patient was confined in the bed for some weeks after the operation, but gained strength, the wound closing so that Dec. 1st it was about half an inch long, and still continued to perform the rectal functions. At that time the lady was performing her usual household duties, and continued to do so until her husband was taken sick and required a good deal of attention, and their kitchen being in the basement, she was obliged to be constantly going up and down stairs, until she was at last attacked with the most severe paralytic stroke the entire eye now, which slowly drained away her life, so that she died just a year, lacking a day, from the date of operation.

An autopsy revealed a tumor on the inner wall of the intestine just below the sigmoid flexure of the colon, which to the eye and touch resembled a whitish formation, but the microscope failed to discover any cancer cells. The intestines in the immediate vicinity were a perfect mass of adhesions, so that the obstruction was doubtless rendered more obstinate and permanent thereby. Had no intercurrent affection intervened, the woman might have had a long and comfortable life, as the result of the operation for her relief, and without which she could not have survived three days.

PULSE AND TEMPERATURE CHART. CASE OF LUMBAR COELOMITY

	August										September									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Bar of Mouth.	98	98	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97
Mouth.	120	120	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
Rectum.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100



FRANK L. SMITH, M.D.,

STAFFED SPRING, LOAN,

NEW LONDON COUNTY.

W. C. WILE, M.D.,

Chairman of Matters of Professional Interest.

My correspondence with the various members of the society in this county does not reveal much in the way of matters of professional interest outside of this town (Norwich). From Old Lyme comes the report that there has been very little of acute disease of any kind during the past year. Mystic bridge reports that "with the exception of a slight visitation of *scarlet* last Fall, and a general visitation of *measles* this Spring, no epidemics have made their appearance. Now and then during the past year we have been called to treat a few mild and apparently isolated cases of *scarlet fever* which rarely spread beyond the patient attacked. Diphtheritic affections have been rare, and few mild cases of *malarial fever*, less than the usual number of *colds*, now and then a case of *shingles*, *tons*, complete the list. *Procyon* (as far as our observations have extended), has not been seen; in short, the past year has been one of unusual health."

Since December last, the members of the Norwich Medical Association have reported at their monthly meetings the number of acute symptomatic diseases occurring in their practice during the preceding month, but as the attendance at these monthly meetings is somewhat irregular, this report must necessarily be incomplete; however, from these reports, I glean the following:

During the past four months there has been reported of *scarlet fever*, thirty-three cases; *diphtheria*, twelve; *measles* and *chicken-pox* occurring more or less, but the number of cases has not been large. A number of the cases of *scarlet fever* presented a great degree of malignancy, the patients dying at or soon after the appearance of the eruption. During the Summer and Autumn of 1883, the usual number of *typhoid fever* cases made their appearance. Dr. Cassidy reports that among his cases numbering about sixty, three were complicated with *phlegmonia alba dolens*; the mortality among this class, as in the year previous, was rather low. In the district known as the Falls, there was for a number of weeks last August quite an epidemic of *dysentery*. In a row of houses on the east side of the Yantic river, it commenced August 11th, and three days later occurred the first and only death. In

this locality lived twenty-three families, containing one hundred and twenty-five souls; of these, twenty-six were attacked with the disease; the only cause assignable was the remarkably low state of the river or pond which is formed at this point, covering in the neighborhood of three-fourths of a square mile. This was drained at this time, and during the hot and dry weather following the epidemic appeared; the fact that all the cases occurred on the east side of the river, while on the opposite side nearly as many resided, can only be explained as far as I know by the prevailing direction of the wind at the time. Two of the cases (a boy aged four and a man aged sixty-five) were complicated with large abscesses opening into and discharging through the bowels.

Soon after sending in the report one year ago, small-pox appeared in our midst; it broke out in the Greenville district, and the patient was quarantined at the post-house. About two weeks later his two children were attacked with the same disease, near the same time two children at the Falls district came down with small-pox; the contagion in the two latter cases seemed clearly traceable to the smoke of the burning bedding, &c., destroyed after the death of the first case; later, an old lady who took care of the children was attacked with small-pox, but recovered, as did also three of the children. After this the town remained clear of the disease during the rest of the year. March 13th of the present year three more cases of the disease appeared in Greenville, and these seemed clearly traceable to the paper-mill. This experience it seems to me is a weighty argument in favor of legislation concerning imported rags. In considering the matter of quarantine, the Board of Health decided to allow the patients to be quarantined in their homes, except one who was removed to one of the other infected homes.

Of the three cases occurring this year, all had been vaccinated; the first was an exceedingly severe case of the confluent form. She was vaccinated about fifteen years ago, so her vaccination must have been spurious, or else lost its protective powers. She recovered after about six weeks illness. Case number two was quite light, the patient keeping his bed but about a week. Case number three was a moderately severe case of the discrete form, from which she recovered in about three weeks. The two latter cases had been vaccinated within five years, which will account for the lightness of the attack.

W. H. DUDLEY, M. D.,

Report for New London County.

REPORT OF A CASE OF AN EXTREMELY ENLARGED HEART.

INCOMPETENCY OF AORTIC AND MITRAL VALVES. ENORMOUS HYPERTROPHY OF THE LEFT VENTRICLE, WITH DILATION AND GREAT THICKENING OF THE WALLS AT THE APEX.

BY EDGAR C. KINNEY, M.D., NEWBURY.

George H. Bruce died April 10, 1884, aged sixty years. Married, and father of a large family. One hundred and seventy-five pounds in weight, five feet eight inches in height. A very light-colored maitto of fair, handsome appearance. Habits good. Business steward to hotel, and the past twenty years proprietor of a restaurant. Has always enjoyed good health (with the exception of an attack of inflammatory rheumatism when quite a young man), until about two years since, when he found any unusual exertion to be attended by difficult breathing. He however continued his business until a month before his death, when, owing to extreme dyspnoea and commencing anasarca, he was obliged to remain at home.

An examination made about the first of March, showed very marked increase of the area of cardiac dulness; at base of organ, a loud pulsing murmur; at the apex, the sounds very feeble and indistinct; severe palpitation on exertion; pulse becoming irregular and weak. Says that going from his store to home at night, about a quarter of a mile up a steep hill, occupies him an hour or more, and he is often compelled to sit down and brace himself against any convenient object to recover his breath. Urine normal in quantity, high-colored, acid, sp. gr. 1020. Albumen 15 per cent. Microscope shows granular and hyaline casts of large diameter; kidney epithelium and large quantity of amorphous urates. Other organs apparently normal.

Under a carefully regulated diet with diuretics, diaphoretics, digitalis, tonics, and stimulants as required, he remained in comparative comfort, with the exception of inability to lie horizontally, until about a week before his death, when the anasarca rapidly increased, extending to the groin. The dyspnoea also became excessive and terrible to behold for about forty-eight hours preceding death, the only relief obtainable being by the constant inhalation of the nitrate of amyl. He retained his consciousness until the last. Expectorated clots of pure blood during the last day of life. Died April 10th, 10 o'clock p. m.

A post-mortem made the next afternoon at 4 o'clock, showed as follows: Rigor mortis well marked. The legs had been punctured in various places after death, and about a pint and a half of fluid had escaped in six hours. Thorax and abdomen only examined. The whole of the cellular tissue was oedematous. Lungs collapsed, somewhat congested, and cretaceous. The pericardial sac when opened was found to contain

about two ounces of serum. The excised heart when removed weighed with its contents sixty-four ounces, and after its cavities (all of which were distended with blood to their utmost capacity), had been washed out, forty ounces. In the right auricle was an organized clot; all the others were probably *post-mortem*, or formed about the time of death. The right ventricle much dilated, its walls about one-fourth of an inch thick. Left auricle and ventricle greatly hypertrophied and dilated. The walls of the left ventricle were an inch thick, except a circular place about one and one-half inches in diameter around the apex, where they gradually thinned down to one-fourth of an inch at the point. The aortic valves were wholly incompetent, water running through them as through an open tube. The septum between the ventricles was three-eighths of an inch thick. The orifices of the coronary arteries were very large, the arteries themselves nearly the size of the radius. Mitral valves also insufficient.

The liver was about normal in size, congested, and showed commencing fatty degeneration. The kidneys were both enlarged and lobulated. The left kidney had a cyst developed in the capsule about the size of a walnut. On the convex border, nearer the upper half and under this cyst, one the size of a pea in the cortical substance. Cortical substance thicker than normal; kidney congested; weight seven ounces. Right kidney was more congested than the left, the blood following the knife; weight seven ounces. The cortex was contracted, in the pelvis of the kidney there was oedema, and between the calices there was a large amount of fat filling the infundibula. Intestines extremely congested, showing beautifully the ramifications of ultimate vessels.

REPORT ON PREVAILING DISEASES.

BY L. A. FARNSWORTH, SECRETARY.

The past year has been free from any excitement, and the prevalence of any one disease, so that I can give you nothing of value. I have had one severe case of diphtheria in an adult lady, which for three weeks cost us much care and anxiety. The treatment which was successful, was mostly the tinct. ferr. every half hour or hour, and a liberal use of stimulants. The characteristic symptoms—great prostration, a tendency of the disease to invade the larynx, very feeble heart action, and temporary paralysis and consequent inability to evacuate the rectum.

There has been some scarlet fever, not very severe generally. One case illustrates the excessive need of caution in order that the disease may not be spread by persons dealing with the sick. A lady two days after confinement was taken with alarming symptoms of prostration,

with extreme rapidity of pulse. We could not account for this except by a diagnosis of scarlet fever. Just before her death a light rash appeared, and subsequently the children suffered and one died. We then learned that the nurse, from a neighboring town, had the care of scarlet fever, and came directly to this woman, one week before her confinement.

During the past month we have had three cases of small-pox, all mild operatives. Query—where did the disease come from? By rigidly quarantining these cases, thus far the disease has been controlled.

I should have been glad to have furnished yet something more, but the ordinary daily round is too familiar to be told, and only an occasional novelty arises. But it is not satisfactory to anyone to have no assistance offered in a work in which all should feel an interest; therefore, except this as a manifestation of good wishes.

NEW HAVEN COUNTY.

RACHITIS AND ATALECTASIS.

BY F. R. RECHTHER, M. D., NEW HAVEN.

S. H. B., male, age at death 17 months; date of birth March 25, 1879. His general health was good up to the time of weaning, which occurred at the age of 18 months, although a little paler and muscular flabbiness existed. From this time his food consisted largely of oatmeal mush and a scanty allowance of milk, agreeing pretty well as a rule, but causing several slight attacks of constipation and diarrhea. Almost immediately after weaning, his muscular flabbiness increased and his mother noticed that his legs were growing weak and that general emaciation was rapidly taking place. At the age of 12 months a slight, dry cough began, with marked increase of the paler and emaciation; at the same time he gasped freely about the head and trunk. At the age of 14 months the chest walls began to bend inward, gradually increasing until permanent deformity of the thorax resulted. During the 15th and 16th months he suffered from six attacks of *Laryngismus Stridulus*. His first tooth appeared at 8 months of age, and at death he had only eight.

When I first saw the child, ten days before its death, the condition was as follows:—Countenance haggard, eyes clear and unken, body much emaciated, wasteless fatty, and the skin hanging in folds upon the arms and legs. The spinal column is bent backwards in a regular curve, the legs hang limp and powerless, from the almost complete muscular atrophy present. The arms are constantly and strongly used, the skin is isæthmic, remaining in deep folds if pinched up, the hair is long and

wiky. Tongue clean and red, appetite good, no vomiting; one yellow passage daily. The abdomen is enormously distended with gas, the thorax small, and the diaphragm is pushed up. Liver and spleen normal. Respiration is shallow and rapid, expiration being accompanied with a low moan. The nostrils dilate during inspiration, and the dyspnea is much increased by the recumbent posture. The cry, never loud, is feeble and whining in character; a dry, jerky, and somewhat convulsive cough comes every fifteen minutes and is followed by crying, as if the act of coughing had been painful. Dullness exists posteriorly over both lower lobes, with diminished resonance over both upper lobes. Subcrepitant rales are heard posteriorly over both upper and lower lobes, and during inspiration the lateral walls of the chest bend deeply inward. Heart normal; pulse frequent and feeble. Superficial lymphatic glands not enlarged. Pain only during and after coughing. No history of malarial infection. Sleeps normally between the paroxysms of coughing, and is bright and intelligent.

The anterior fontanelle, which ought to be closed at this age, is large, measuring $1\frac{1}{2}$ inches across between its sides. The sutures are firmly ossified.

ANTERIOR FONTANELLE.

An.

Angle

 $1\frac{1}{2}$ in. across $1\frac{1}{2}$ in. across

Pos.

Angle

No craniothorax exists.

Diagnosis.—Rachitis and atelectasis.

Causes.—Premature and rapid weaning, excess of starchy food, bad hygiene. The child went out of doors only once a week, very rarely twice, and lived in an overheated kitchen in which its mother did her work.

Prognosis.—Hopeless. Death is imminent. The child died within forty-eight hours of my first visit.

Post Mortem examination eight hours after death. No rigor mortis. Thyroid gland normal.

Lungs, Right.—Upper half of upper lobe collapsed. Upper $\frac{1}{2}$ of middle lobe in same condition, $\frac{1}{2}$ lower lobe also. Left.—One-third

very difficult owing to the imperfect degeneration; however, in a very few upper lobe collapsed, also lower half of lingular like process, and $\frac{1}{2}$ lower lobe. No pneumonia. Bronchial glands slightly enlarged and hyperæmic, but not degenerated. Heart normal, with large, dark, soft clot in the left auricle. Liver normal. Spleen normal. Kidneys normal. Mesenteric glands enlarged to size of pea, hyperæmic and soft, but not degenerated. Stomach, color, and small intestines disturbed with gal, and somewhat thinner than normal in consequence of atrophy of their coats, but otherwise normal. Brain normal.

This case is presented as a typical illustration of thousands yearly occurring in the transient bores districts of every large city.

WINDHAM COUNTY.

A CASE OF BELLADONNA POISONING, WITH COMPLETE RECOVERY.

BY CHARLES JAMES FRY, M.D., WILLIMANTIC, CONN.

I herewith present, for the consideration of my professional brethren, a very interesting case of Belladonna Poisoning, followed by complete recovery; and inasmuch as the case was one of unusual severity, it demonstrated that the curative powers of opium proved to be in this case an invaluable remedy.

March 10th, a messenger in great haste came to my office about 9.20 P. M., and requested my immediate attendance upon the youngest child in the family of Mrs. A., about four years of age. Mrs. A. informed me that about 7.20 P. M., after taking some medicine, the child was seized with severe vomiting, which continued with spasms, alternated with periods of repose, until my arrival at 10 o'clock P. M.

I found the child was sleeping quite soundly. Pulse 122, respirations 31 per minute; the eyelids upon being raised, disclosed the irides very largely dilated, only a very small circle being visible. There was also a red effluescence all over the body, and some talkative delirium at slight intervals. The nurse stated that the mother had given the child, about 7 o'clock that evening, a teaspoonful of some opiate mixture (Quinine Sulph. $\frac{3i$, Fil. Ext. Terebinth. Syr. Glysteric $\text{ad } \frac{1}{2}$ oz), to avert a chill, but in a few minutes afterward the child had vomited slightly, and in about an hour had commenced having spasms, which were the condition until my arrival.

Upon examining the opiate mixture (as called), it was found to be Field Extract of Belladonna, which had been used by the mother locally for the purpose of suppressing a threatened venery above. I immediately gave the child a strong emetic, followed in a few moments by a teaspoonful of mustard mixed in water, but the administration was

moments imperfect taxis followed. I then decided to try the antidotal remedy, opium. At 10.45 p.m., I injected hypodermically acetate morphia one-eighth grain, and administered per os a teaspoonful of a strong solution of tannic acid every thirty minutes. The patient slept in a few moments after the injection, pulse 127. There was considerable subsultus at throes, and the slightest touch on the finger tip would always result in profound digital flexion.

At 2 a.m., the patient on being aroused, voluntarily complained of severe pain in the larynx, and a very gruff voice was noticeable, followed by an expectoration of minute, pearly tough pellets; the red effluorescence of the skin had disappeared in a marked degree. The left pupil was slightly contracted, and the right was very largely dilated. I then injected hypodermically one-twelfth grain of acetate morphia in the right arm, and continued the solution of tannin.

4.30 a.m., the patient was very uneasy and restless, and very weak, becoming delirious, laughing at one moment, and screaming with fright the next. There was muscular incoordination in reaching for anything, the power of articulation was destroyed, and the tongue appeared greatly oedematous. The effluorescence had reappeared over the entire body, the pupils were largely dilated, and there was morbid sensitiveness to sounds and objects, with insatiable thirst, but difficulty of deglutition. 6.20 a.m., no better; hypodermically administered one-eighth grain acetate morphia in the left arm. 8.30 a.m., sleeping quietly, evidently being fully under the influence of the injection; some subsultus tantulum when quiet; pulse 130.

10 a.m.; on arousing the patient she manifested considerable delirium, and seemed to want to grasp at everything; pupils slightly contracted, with diverging strabismus; pulse 125, respirations very slow. At 11 a.m., was sleeping very usually, pulse 122, respirations slow with crowing sound on inspiration. She became very rigid when aroused, and relaxed when asleep. The effluorescence had again disappeared. I ordered the solution of tannin to be given now every hour; aroused the patient at intervals every hour until 2 p.m., when she awoke. She talks better, articulation is more distinct, and she complains of thirst. I gave her Old Brand, Old Blend, &c., a teaspoonful every hour, discontinued tannin solution, and injected one-twelfth grain acetate morphia in the left arm.

4 p.m., she passed a very large quantity of dark-colored urine, pulse 119, profuse perspiration, warm surface. 6 p.m., condition about the same, and bowels moved freely. 8 p.m., patient sleeps quietly, and when aroused appears much better. 12 midnight, pulse 100, respirations 21, much better. 2 p.m., the patient sleeps quietly, pulse 88, respirations 17, the pupils normal although dilating readily; all the traces of the Belladonna Poisoning have disappeared; from that time onward, the patient made a rapid and permanent recovery.

ESSAY.

CALIFORNIA AS A HEALTH RESORT.*

By A. M. Saxe, M.D.

GENTLEMEN:—

Circumstances beyond my control render it impossible for me to read, at the annual meeting, the regular Dissertation which I prepared several months ago in obedience to your appointment. In lieu thereof, I beg you to accept some thoughts respecting the climate of California, and its advantages and disadvantages as a health resort. I am the more desirous of giving you my impressions on this important subject, because you, as physicians, have it in your province to prolong the lives of many invalids by furnishing correct advice as to *when* and *where* to go, when a change of climate is desirable, and also, to prevent useless and unnecessary pain by dissuading patients from undertaking lengthy and tedious journeys, when suffering from incurable organic diseases.

I have met so many sad instances of great suffering endured by invalids who were sent out here, long after there was a shadow of hope of cure—when only the tenderest care of loving hands at home should have ministered to their wants—that I am convinced you can do as much good in this negative way, as by the more positive recommendation to those who really need a change of climate.

Let me, then, mention some of the principal disadvantages first. Under this head I shall not speak of climate, because California, with a coast line extending from North to South more than 800 miles, with high mountains, well-clustered cañons, warm valleys, and broad sandy plains offers every conceivable climate from rigorous winter to soft and balmy spring.

Nothing has surprised me more than the marked contrasts at comparatively short distances. At Los Angeles, for instance, you

* Read at the Annual Meeting of the Malibu County Medical Society, April, 1884.

look-off twenty-five miles to the summit of the Sierra Madre range, where the snow-capped peaks glow in the sunlight continuously, while you are feasting on strawberries and tropical fruits, surrounded by roses, heliotrope, and rare exotic plants.

One other instance of this great contrast may be mentioned. At San Francisco, you require heavy under flannels and thick outer garments the entire year. The mean average temperature for January or July is about 50°.

By simply crossing the bay to Vallojo, 20 miles, and passing 10 miles into either Napa or Sonoma Valley, you reach a sheltered section where the thermometer in the shade marks a temperature of 100° during nearly half the year. These facts may explain the diversity of opinions which have been expressed by equally intelligent observers. One traveler crosses the continent to San Francisco, hurries through the State barely catching glimpses of places along the line of travel, and returns home with an uncomfortable impression indelibly stamped on his memory by the fogs or chill winds of San Francisco, and the extremely poor hotels along the route. Another journeys leisurely by the Southern route to Yuma, Riverside, San Diego, Los Angeles, Santa Barbara, and Monterey, pausing long enough to feast on the oranges of San Gabriel, the strawberries of Pasadena, and the grapes of Santa Clara Valley, until his mind is filled with wonder and delight at the fertility, warmth, and possibilities of this youthful state.

Of the disadvantages, distance claims our first attention. Three thousand miles over the Rocky Mountains, requiring a journey of six or seven days, is a serious obstacle even to the strong and healthy. It should receive your most serious consideration. Do not venture to send patients suffering from advanced organic diseases, upon this long and tedious journey. Heart troubles, spinal affections, and acute lung diseases contraindicate travel which involves distance, elevation, and discomfort. On the other hand, experience shows that "nervous" people who suffer from insomnia at home, are benefited by the continuous motion of railroad travel, and thus find rest after other treatment has failed.

The great army of sufferers from dyspepsia, asthma, neurasthenia, and convalescents from acute diseases, may safely and with advantage undertake the journey. I have been surprised to find that nearly all passengers overhead weigh more and feel better at the end of the journey than at its commencement. While there

are still many inconveniences and much room for improvement, yet the sleeping coaches and eating stations have been so greatly changed for the better during the past ten years that but little remains to be hoped for in this direction.

When you have decided that your patient would be benefited by travel, you may safely follow this rule. If you consider him able to cross the Atlantic, you need have no hesitation in advising him to undertake the overland journey to California.

Having tried both, I unhesitatingly give the preference to the latter; and in this opinion I am guided as much by observation as by personal experience.

The second disadvantage to be mentioned is that of indifferent accommodations for invalids after they have reached the Pacific Coast. I refer, of course, to the hotels or public houses. This objection, which at present is a serious one, applies to all Southern California, with the exception of Monterey, Santa Barbara, and Sierra Madre Villa. There are many private houses where enterprise, taste, and skill have, in a few years, made the most delightful cottage homes to be found in America. Some of these are located in sheltered cañons where all of the tropical fruits are produced in abundance. Others spring up like luxuriant oases on the plains or near the ocean. Doubtless many invalids could find good accommodations and cordial greetings in some of the rural paradises. But these places are unknown to the seeker after health, and when found, serve by contrast to make the defects of the public houses still more apparent. As this is one of the objections to Southern California which applies equally to all new countries, it should not be presented as a natural but only as an artificial defect which time and money will obviate.

You observe I have noted some exceptions to this general statement. At Santa Barbara two good hotels—the Arlington and the Elwood—offer comfortable accommodations for two hundred guests. Both houses are well situated and admirably kept. Here too, may be found gentle and safe saddle horses at reasonable rates for those who fancy this sport and are well enough to enjoy it.

Perhaps the best small hotel in California is the celebrated Sierra Madre Villa owned by Mr. Cogswell, the artist. It is situated in the highest part of the foothills, 1,500 feet above sea-level, at the base of the Sierra Madre Range, fifteen miles from Los Angeles. The wonderful developments, the peculiar charms, and

the future possibilities of the country may be seen while sitting in January on the well-kept lawns of the Villa, breathing in the perfume of rare tropical flowers, and feasting the eye upon the beauty of orchards, groves, and vineyards of the valley. But it is at the quiet old town of Monterey, formerly the capital of California, that we find in the "*Del Monte*" the ideal Hotel. Taking everything into consideration, this hotel, with its fare, rates, appointments, accommodations, grounds, drives, beach, pavilion for bathing, etc., etc., has no equal in the world.

The Hotel del Monte is owned by the Southern Pacific Railroad. It is constructed in the modern gothic style, and cost, with its furniture and other appointments, a half a million of dollars. The house is elegantly furnished throughout, and is kept so scrupulously neat and clean that the visitor is sure to think it can have been opened but yesterday. Both hot and cold water are carried through the hotel, and there are numerous bath-rooms on the different floors free to guests.

The site selected was in a lovely grove of pine, oak, and cedar, the trees being sufficiently scattered to admit of the adornment of the grounds by means of drive-ways, footpaths, lawns, and beds of flowers. Under the direction of an accomplished landscape gardener, a corps of forty men is kept constantly engaged in embellishing the gardens, avenues, and walks.

Here and there are swings, croquet plots, an archery, lawn tennis grounds and bits of fine beach sand, the latter being intended for the use and delectation of the children who cannot wait the bathing hour for the daily visit to the beach. The use of all these, as well as the ladies' billiard room, are free to guests.

Driving and riding constitute two of the leading amusements of Monterey.

Well-kept macadamized roads have been constructed a score of miles along the ocean, through cypress groves, and back over the mountain, and nearly all the time within the borders of the hotel company's property. Coming to this beautiful place in January, from the snow and ice of New England, and finding one well surrounded by shade trees, green grass, and bright flower plots, it is difficult to shake off the impression that you are still in the mazes of dreamland, from which you dream to be awakened. After a stay of nearly three months I am convinced that, considering everything,—climate, hotel accommodations, sea-bathing, and

beautiful surroundings—Monterey approaches nearer to the Ideal Sanatorium than any place I have ever visited. One of the distinctive peculiarities of Monterey (also Santa Barbara) is its equable temperature. The mean average for the months of January being 59° and July 65° . As a result, invalids and travelers from New York and New England come here to get warm and occupy the hotel during the winter and spring, while the Californians flock to it from the hot inland valleys to cool off, during the summer.

There is a steady sun in the atmosphere which enables and invites you to live out of doors beneath the clear blue skies, without feeling the enervating effects of the heat further south.

From January to December, year in and year out, the weather partakes of that delightful intemperate known in the East and South as *Indian summer*. This is well shown by the fact that at his ranch in a small cañon seven miles from Monterey, Mr. W. W. Thompson has picked ripe strawberries from his vines *every day* during the past four years.

What I have said respecting the climate of Monterey applies equally well to the Pacific Coast from Santa Cruz to San Diego.

During what may be termed the winter months 59° will mark, on an average, the mean temperature, and water is never congealed. The very fact that many persons wear overcoats and sleep in blankets the year round, and that all field work from January to December is performed by laborers in their shirt-sleeves, presents a better and more unequivocal illustration of the equality of temperature, perhaps, than any other incident that might be presented.

What is generally known as the rainy season, commences in November and lasts two or three months. Many people who have never visited California erroneously imagine that during the "wet season"—so called in contradistinction to the dry months—rain never ceases to descend. This popular error is corrected by glancing at weather tables, which invariably show that during the wet season in California there is not only less rain but more fair and beautiful days than in that portion of the United States between the Mississippi River and the Atlantic Ocean during the same time.

The following figures, representing the mean temperature of January and July, and the average annual rain-fall (in inches) in Mentone, St. Paul, St. Augustine (Florida), and also in San Diego,

Santa Barbara, Los Angeles, and Monterey (California), afford a subject well worthy of consideration.

	Jan.	July.	Sept.-Oct.
San Diego,	57°	65°	16
Santa Barbara,	54	66	15
St. Augustine,	59	77	55
St. Paul,	13	75	39
Monterey,	39	69	23
Los Angeles,	55	67	18
Monterey,	50	65	14

Cold with moisture leads to pulmonary diseases, heat with moisture leads to malarial fevers. From such diseases the coast of Southern California is remarkably free. The dryness of the atmosphere prevents malarial diseases, and is also a great relief to bronchial affections.

You may ask, how can an invalid pass the time; in other words what amusements and recreations are offered? Samuel Bowles once wrote from Los Angeles that "It is the happiness of Paradise to breathe the air and to bask in the sunshine of Southern California." To the confirmed invalid who has been for months imprisoned by the rigors of an Eastern winter nothing more would seem desirable; but it would hardly satisfy the convalescent who begins to feel the vigor and buoyancy of returning health. Here again the advantages of California are manifest. In all parts of the State the sportsman finds use for his gun and rod. Squirrels, rabbits, wild geese, quail, ducks, and deer can be found near at hand, while larger game, such as panthers, bears, and grizzly bears, abound in all the wooded mountains of the State. The streams are alive with trout and salmon, which can be legally taken after April 1st.

Time will not allow me to do more than name some of the numerous springs which abound in all parts of the State. In variety, number, and character, they are found in California at convenient points, periodically grouped together so that the invalid may have the benefits of soda, sulphur, alum, magnesium, or iron springs, hot or cold, while staying at one hotel. The waters of Paez, Reddes, Paradise, Gilroy, Harbin, Byron, Seigler, and of other hot springs, are beneficial in the treatment of sciatica, rheumatism, gout, paralysis (without organic lesion), and cutaneous eruptions. The hot springs of Lake Napa, Sonoma, Los Angeles,

Santa Barbara, and San Diego Counties have no superiors in Eastern States, while many of the cold sulphur, soda, and chalybeate springs of Napa, Lake and Sonoma Counties exceed those of Bethesda and Saratoga. They are all accessible, with good small hotels, situated in the midst of some of the grandest mountain scenery to be found on the Pacific coast.

Perhaps the most celebrated of these are the soda springs located six miles northward from Napa City.

These springs furnish a daily flow of four thousand gallons of water impregnated with iron, soda, magnesia, lime, and murate of soda, with free carbonic acid gas, in such happy combination as to insure pleasure, health, and physical improvement as the result of their use. From more than twenty of these springs is poured forth the article well-known in the commercial world as "Napa Soda."

The water is bottled and sold just as it flows, pure from nature's laboratory, with all her sparkling freshness still upon it.

The place is not what is usually termed a fashionable resort. It is a delightful spot in which to bathe, and hunt, and fish, and sleep, and dream, and rest, and forget the busy, whirling city, with its work, worry, and disappointments.

Perhaps I have said enough to indicate, in a general way, the advantages, and a few of the peculiarities, of California as a health resort.

Many extravagant statements have been made by tourists, conveying the impression that frost is unknown, that no fires are needed except for cooking, that it always rains at night, that it is never uncomfortably warm in summer, and various inaccuracies tending to give a false impression of the country.

The residents of Southern California do not claim that their climate has no discomforts, but they maintain stoutly, and with reason, that no climate has fewer. I have noticed that the longer one remains in California, the stronger becomes his attachment, and the less his inclination to return to the changeable climate of New England.

In closing, permit me to briefly indicate some of the classes of invalids, which are benefited by coming to the Pacific coast.

Persons having sensitive lungs, and those in the early stages of consumption, always find relief, and sometimes permanent restoration, in the warm, dry, regions of Southern California.

So, too, sufferers from rheumatism, neuralgia, nervous prostration, and asthma. In fact, all of the disorders in which out-door life is indicated, may be treated in this dry warm climate with a fair prospect of success.

On the other hand, as you value the good will of those who look to you for advice, do not subject invalids suffering from chronic venereal diseases to the discomforts of a long journey, when no radical benefit can be expected. The key to this climate is to be found in the fact that it has a warm sun and cool air. You may sit under the shade and pick ripening figs by day, and then retire to sleep under heavy blankets at night. The day furnishes warmth which is not debilitating, while the cool nights bring refreshing sleep. There is scarcely a day of the year a large portion of which may not be spent out of doors.

Add to these advantages the choicest and most tempting array of fresh fruits and vegetables for every month of the year and you have all of the requisites in a climate for invalids.

Thus far only a commencement has been made in settling this great State. At no distant day, when it shall have been cut up into small farms and occupied by thrifty Eastern people, we may expect a veritable Paradise on earth, and such a Sanatorium for invalids as the world has not known.

ESSAY.

MEDICINE FIFTY YEARS AGO.

R. W. MATTHEWSON, M.D., DUBLIN.

It is but recently that I have been notified that I was appointed to say something on this occasion, which appointment had somehow escaped my notice. Aware of the fact that I could not furnish anything in a scientific way worthy to present, I concluded that if I had any advantage, it was in my memory, and that I could furnish some reminiscences which might be new to many, and might be the means of calling the attention of others to events in the past, so that the collateral history of our society might be as perfect as possible.

We find, on looking over the list of nearly four hundred members of this society, fifty years ago, that but fifteen remain, six in New Haven County, two in Litchfield County, three in New London County, one in Fairfield County, one in Tolland County, one in Middlesex County. Of these, eight were graduates at New Haven, three at Pittsford, two at Brunswick, one in Philadelphia, and one in New York. Of the medical class in New Haven, of '23 and '24, of sixty-two students, only six are known by the writer to be living. These are Rev. Dr. Peter Parker, from Farmington, Mass.; Rev. Thos. K. Peabody, from Beaufort, Va.; Dr. Harrison of Wallingford, and Dr. E. B. Middlebrook of Brooklyn. Half of the states were represented in the class, also South America, England, and the West Indies.

The Hospital was new at that time, with few patients, and of but little advantage to the students. There were no clinics, and the schools were closed eight months in the year. Assesitation was not taught, nor the analysis of urine known.

Beight, Geyers, or Adhisen had not then become immortalized by having their names applied to a disease. Beaumont, a native

of Boush, in this State, had just published the experiments on digestion, and exhibited his subject in New Haven.

The Clinical Thermometer, Hypodermic Syringe, Chloroform, Chloral Hydrate, and the Bromides were not known, nor the practical use of Anesthetics had not been discovered.

There was quite a rage for taking gas and ether for amusement. Professor Stillman used to administer gas to students at his lectures. It is said he had bags filled with air, which he sometimes administered, to hoax the students. At one time, after inhaling the bag of air, the students showed fight, and went for the Professor, who, after debating himself for a moment, told what he had given them. It then was known that no suffering was experienced while the effect continued, but it was left for Horace Wells years after to make a practical use of this discovery. Gynecology was not considered of much importance; only three or four lectures were given on the diseases of females.

Nearly forty years ago, the writer had the honor to report the case of Fordyce Barker, a member of this Society, for Dissertator. His subject was "Local Treatment of Uterine Diseases, by the Speculum." This was considered such an innovation on old customs that many of his friends feared it would injure his professional character.

When Dr. Bedford, of New York, first opened his clinic, his exposure of females was severely denounced by some of the medical journals. The remedy, in all emergencies, was the lancet. It was used in all acute diseases and violent attacks of all kinds, apoplexy, paralysis, epilepsy, asthma, injuries, whether in the stage of collapse or reaction. There was no responsibility involved, as they all used it. Early, often, and largely was the rule.

Even the American Sangrado, says in his defense of blood-letting: "I could mention many more instances where blood-letting has snatched from the grave children under three or four months old, and three or four times in the ordinary course of their acute diseases." "Bleeding should be continued while the symptoms which caused it returned, should it be till forty-fifths of the blood contained in the body is drawn away."

In cases when it does not cure, he says: "It may be used to induce quiet sleep, and then scratch the passage out of life." Dr. Hosack recommended blood-letting in croup, as the next remedy after an emetic, to the extent of from two to four ounces in a child under two years of age, and from four to eight ounces from

children over two years, repeated as often as necessary. The scabbing of Nathan Smith and William Tully at New Haven did more to do away with the indiscriminate use of the lancet than all others. Nathan Smith, in his work on fever, published sixty years ago, taught that it had a course to run, and that all heroic remedies, for the purpose of breaking it up, were injurious. That he had never interrupted or shortened the course of a case that he knew to be such. Bleeding for the purpose of lessening morbid heat and frequency of the pulse, often had a contrary effect. He recommended the use of cold water dashed over the patient and drank of *bebien* as the best means for reducing heat, and said that patients confined to milk and water, without modification, did better than those treated in the ordinary way. No work was more severely criticised by the medical journals of that day.

Dr. Tully denounced the use of blood letting, antiseptics, and all reducing remedies for relieving "morbid irritability, irritation," "morbid sensibility and sensation," "morbid heat, mobility, restlessness, and justification." Dr. Tully encountered the strongest prejudices among the people of New Haven. Physicians who appreciated his abilities, and called him in consultation, lost caste with the community, and in cases of protracted illness it was difficult to get watchers and nurses who would give medicine, if he had anything to do with prescribing.

Many of his medicines have come into use since his death. His lecture on Veratrum was published by Dr. Chas. Osgood, of Chicago, June, in the first volume of the *American Journal of Pharmacy*, soon after he graduated under Dr. Tully. This article made Dr. Norwood, of South Carolina, popular years after. This medicine was again brought into notice by Dr. Fendlyce Barker, and created quite a sensation throughout the medical world.

Dr. Tully's treatment of group by the "di-probo-sulphate of mercury" and "sangainaria" was the same as was published by Prof. Barker, and was so successfully used in his practice. His "Tully powder," which he claimed he had used ever since morphine came into use, was comparatively unknown till the recipe was published in Dr. Barker's *Clinical Lectures on Puerperal Diseases*. It has now become a household remedy, and is as popular as Dover's powder. The great fault of Dr. Tully as a lecturer was the exhaustiveness of the way in which he took up any subject. His dissection and proofs to classes took up the larger part of the course, leaving little time for individual articles. The two volumes of his

"*Materia Medica*" which were published, containing about fifteen hundred pages, were devoted entirely to classification and poems. His essay on *Sanguinaria* covered more than ninety octavo pages.

The appointment of Thomas Hubbard to the chair of Surgery was in many respects unfortunate; no man could fill the vacancy left by Dr. Smith. Dr. Hubbard was not a graduate, but mostly self-educated; his pronunciation was faulty, which students were not slow to notice; he was very closely confined to his manuscript, even in relating anecdotes. As an operator, he was more successful than beautiful. When he removed to New Haven, he left a practice and professional reputation second to few in New England, his practice extending over Windham County and largely in the adjoining States. His office was always filled with first-class students. One of his late students was W. H. Rockwell, of the Vermont Insane Asylum, whom I have heard say that, while in the office of Dr. Hubbard, one afternoon, as the stage carrying the great New York and Boston mail passing through Farnet, left a letter for himself announcing his appointment as Assistant Physician to the Insane Retreat, he remarked to the students in the office that nothing could have been less expected or desired on his part, for early associations had given him a perfect horror of the insane. An expression of surprise was manifested by each student at the way he received the news, each regretting that he was not the favored one. He finally decided to report at Hartford, and after a tedious ride by stage was landed at the Retreat, which at that time bore very little resemblance to the beautiful place it now is. It had more the look of a prison or factory, located in an open field. It had been constructed with the strictest regard to economy. The only question seemed to have been,—How can we furnish the most accommodations for the least money? Who ever reads the early records of this society can but admire the perseverance of our predecessors, as they labored from year to year in getting up this institution, then one of the earliest in this country. The young doctor, greatly fatigued by his long ride, retired, to be kept awake all night by the hollow shrieks and howlings of a new patient. He said it was the most gloomy night he ever spent. The next day Dr. Todd, the Superintendent, made him such proposals that he concluded to remain and complete his medical course under him, which he did, and graduated under his former preceptor in 1831, after which he located in Durham.

expecting to spend his life as a country doctor. After a year's trial, he retired to the Retreat, whence he was appointed Superintendent to construct and manage the Insane Asylum at Bethlem, where he remained thirty years, making it the most successful and popular institution in this country. During the most of the time of his administration the cost of keeping a patient was but a dollar and a half a week.

The success of Dr. Beckwell did great credit to the judgment of Dr. Hubbard, who first discovered his peculiar fitness for the various departments of the work. All who visited the institution could but admire its homelike appearance.

Fifty years ago there were not twenty medical colleges in the United States. Seven were in New England, with an average attendance of about one hundred. Harvard was a little ahead of Yale in number of students, and Yale for the ten years previous had nearly double the number of graduates.

Before the Yale medical school was organized, the Harvard course continued but six weeks in the year.

The Berkshire School was then popular in this State. Willard Parker filled the chairs of anatomy and surgery, giving two lectures a day.

There were two schools in Vermont. Prof. Tully was still President, and professor of theory and practice in the Vermont Academy at Castleton, the term beginning there, at the close of the term in New Haven. This school at one time had the largest class in New England equal to Harvard.

There were but two medical schools in the State of New York. The College of Physicians and Surgeons in the city, and the College of the Western District at Fairfield, both under the Regents at Albany, who granted diplomas to such as were recommended by professors and trustees of the different institutions.

The faculty of the city, with the exception of Dr. J. A. Smith, professor of anatomy, resigned in 1826, and erected a college in Duane street, which was called the Rutgers Medical College, connected with a college of that name in New Jersey.

The edifice was probably the finest in this country. The vacancy in the chair of anatomy was filled by Dr. John D. Godman, who had lectured on anatomy in the University of Pennsylvania.

He was a translator of French works on anatomy and surgery, an editor of a medical journal, a very fine anatomist, and one of

the most brilliant ornaments to the profession this country has ever produced.

Valentine Mott once said of him, 'In the perfection of his anatomical knowledge, in eloquence, and efficiency as a lecturer, he was not surpassed in this, or perhaps in any other country. He was one of the sunbeams, whose brightness dazzles for the moment, ere it fades and leaves the darkness more visible.' It was to his eloquence that the profession was indebted for Dr. O. S. Bedford. Dr. Bedford, who had chosen law for a profession, was passing through New York with letters to Daniel Webster, when a friend, a student in Rutgers, persuaded him to go with him to attend a lecture by Prof. Godman. Dr. Bedford was charmed and carried away by the eloquence of Dr. Godman, and at the close of the lecture went up and showed him his letter to Daniel Webster, put himself under his tuition, and graduated at the Rutgers.

The *Life* of Dr. Godman, with some beautiful poems written during his last illness, was published by the Methodists as a religious tract for free distribution among medical students. The writer received a copy when a student. It is not probable that any medical school in this country ever started under more favorable auspices than the Rutgers Medical College.

David Hosack was prominent in the faculty. It was said of him by his colleague, Dr. J. W. Francis, 'Never have we heard a medical teacher who in power of language, clearness of exposition, force of instruction, and dignity of carriage, equaled Dr. Hosack. In clinical medicine he had no superior; his eloquence as a teacher was of the most commanding order; the physiology of health, the pathology of disease, and the capabilities of our art, were with him the theme of the richest disquisition; and the most indifferent student could not fail to have his attention riveted to the able exposition and the graphic illustration of morbid phenomena and curative agencies.' Valentine Mott filled the chair of surgery, and the other chairs were filled by men of high character.

The Regents, who were determined that no medical school should exist in the State not controlled by them, procured from the legislature several special acts to put down the Rutgers school, which gave up the contest before three years. A professorship was made for Dr. Mott in the old school, where he lectured, till he went to Europe in 1825. It was proved that the Rutgers was no injury to the old school while it was in operation, and no benefit came from its discontinuance. All were afterwards satisfied that the

unjust treatment of the Rutgers was a great injury to medicine in New York. In Philadelphia, the Jefferson school, which started the same year as the Rutgers, was on the level. Paper and printer's ink was used with extravagance never known before by a medical college. A strip of the tin box to contain the diploma occupied a conspicuous place in the circular, while there was not a medical circular or catalogue printed in New York. Granville Sharpe Pattison had just returned from London, where he held a short professorship in the University of London, and had taken the chair of anatomy at Jefferson, formerly filled by Nathan K. Smith, who removed to Baltimore and took the chair of surgery vacated by Prof. Pattison before going to London.

The labors of the Regents at Albany reduced the attendance in New York to about one hundred, while in Philadelphia it had helped to increase it to about one thousand.

There was but one class of physicians in this State; all were members of this society by compulsion, or they could not collect their medical bills by law. Agents were selling Thomson's book, and patent right to use his medicines. The purchasers styled themselves "Thomsonian Botanic Physicians" for several years, and claimed no qualifications except what they acquired from this book. Thus armed, they soon complained of the monopoly which physicians enjoyed in being able to collect fees by law. A few years later, they got up a petition to the Legislature for the repeal of the eighth section of the Medical Law, but the petition lay over for the Medical Society to put in an appearance.

In 1840, the sympathizers secured influence in the Legislature to get their petition through. When they found the opposition was withstander, the Thompsonian doctors came forward and notified the supporters to try to get the petition continued, as they did not care to get the bill passed only to agitate the supporters; but the bill, however, passed. The Thompsonians finally took the name of "Eclectic," when Buchanan began to sell their bogus diplomas.

At a State Convention in New Haven, a few years ago, while Buchanan was serving out his sentence in prison for his share of the fraud, a large number of the names of the officers elected corresponded with the names of his list of bogus graduates in this State. According to the last report of the Commission of Education, there were about thirty-five hundred graduates in regular schools; 430 Homeopaths, 500 Eclectics. Therefore it seems they still have some secret way of obtaining diplomas, if they have any.

ESSAY,

THE EARLY DIAGNOSIS AND TREATMENT OF FOTT'S DISEASE OF THE SPINE.

By GEO. B. PACKARD, M.D., HARTFORD.

The causation, pathology, and treatment of Pott's Disease of the Spine, has been the subject of no little discussion and interest among the profession, during the past few years. And in compiling this to-day, I have limited my paper to the early diagnosis and treatment upon which so much depends.

Although the period preceding deformity is generally quite long, the disease, in this stage, in a large majority of cases, is overlooked or mistaken for some other. Dr. Gibney reports that of 124 cases admitted to the Hospital for the Ruptured and Crippled, during one year, only 14 came without any angular deformity. But if care be taken, it is certainly no difficult matter to diagnose these cases early. In the first place, I wish to call attention to one or two *false symptoms* that are commonly looked for, and regarded by many, as important and early ones. These are *tenderness over the spine from pressure*, and *pain in the region of the back*. The first is so rarely found that its presence is almost indicative of the absence of the disease. In fact, if the patient were suffering at the time of examination, pressure over the spine would be more likely to relieve pain than to cause it, as it would tend to reduce the pressure in the anterior portion of the vertebra where the disease exists. Pain is also a very unreliable symptom. It is seldom present in the back; and although we generally find it along the course of the nerves, it is sometimes absent even here, for as Billroth remarks: "in the fungus non-suppurativo osseus, the bone may be extensively destroyed without any pain;" and as this patho-

logical condition, according to our best authors, exists in many cases of Pott's Disease: we shall frequently find a decided curvature without pain. One of the first two symptoms generally observed, is the carelessness displayed by the child in walking and playing; also the effect of slight jars and strains, which frequently giving rise to pain, cause the patient to assume a position that will relieve the pressure from the spine. It will now very likely be remembered that for the past few weeks, the child has shown an indifference to his usual amusements. And there will generally be added pain in the region of the chest or abdomen corresponding to the location of the disease, and exaggerated by missteps and jars; this pain is caused, undoubtedly, by the swollen tissues pressing upon the spinal nerves at their foramina of exit. Another important symptom presending deformity is a reflex spasm of some of the muscles of the back. Dr. Shaffer remarks that this rigidity does not cause any voluntary complaint on the part of the patient; and that it is due to a peculiar irritation of the peripheral nerves, which actually supply the diseased or inflamed structure. It is accompanied, however, by an oppressive feeling, very difficult to define, and very distressing to the patient. The movements of the child in getting from the recumbent to the erect position, and in stooping to pick up articles from the floor, are so modified by the rigidity of the muscles of the back, that they help much in making an early diagnosis.

Again, a thorough examination of the iliac fossæ will frequently reveal an abscess before any change has taken place in the spine. Disturbed sleep is another early symptom: the patient moans and cries out without awaking; and this is generally so well marked, that the mother will refer to it as one of the most prominent.

I will now briefly call attention to two or three conditions, which present some difficulties in diagnosis. We frequently see cases, a little other than the ordinary patient, complaining of the symptoms previously described, but where there are no caries. The trouble here is a neurosis, and frequently called hysterical, and we shall invariably find an entire absence of the reflex muscular contractions, while tenderness from pressure will be very prominent. From these two symptoms we can almost exclude caries, while upon further examination, we can usually find enough neural symptoms to make our diagnosis strictly different from that of

Pott's Disease. When we have caries occurring in the cervical region, we have no difficulty in distinguishing it from torticollis. The reflex muscular contraction occurs here in the early stages the same as when the disease is in other parts of the spine, and consequently the position of the head will resemble very closely the condition of true torticollis; but the peculiarity of the gait, the disturbed sleep, and the carelessness displayed in moving about are also present here, and the diagnosis can be easily made. Besides, in true torticollis, there is no swollen and inflamed tissue to press upon the nerves, and give rise to pain and unpleasant symptoms.

When the caries is located in the lumbar region, there are many symptoms in common with hip disease, one of which is the rigidity of certain muscles. In lumbar spinal caries, the only motion usually limited by contraction is extension, due to the contraction of the psoas; while in caries of the hip, other motions of the hip are limited, such as rotation, flexion, &c. Also by palpation, we frequently find a swelling in the iliac fossae, which accounts for the shortening of the psoas,—a frequent symptom of Pott's Disease. The rigidity of the muscles of the back and the very insidious chronic nature of Pott's Disease will make it easily to be distinguished from periarthritis and other intra-pelvic troubles,—in other words, the inflexible spine, and pain extending into the limbs, with limited extension of one or both limbs, are indicative of lumbar caries, rather than any intra-pelvic trouble.

In considering the treatment of Pott's Disease of the Spine, we are reminded of the different theories in regard to its pathology and etiology; but however much these may differ, we shall all agree on the importance of the free use of tonics, especially cod liver oil, and on the importance of giving rest to the diseased part, while the patient is allowed to be out in the open air. Our main object then is, fixation of the spine; this can best be accomplished by one of two different methods, depending upon the location of the spinal lesion, viz., the plaster of Paris jacket and an adjustable steel support. Let me say right here, however, that the relief afforded by almost any properly-adjusted support which fixes the spine is very marked, and is apt to mislead the patient; he, thinking a cure will soon take place, is liable to over-exercise and become negligent, and then a recurrence of symptoms will invariably follow. For this is a disease which cannot be permanently relieved in a few months,—its cure is the work of years. In the lumbar

and lower dorsal region the plaster of paris has superseded any other appliance in my hands, but in the middle and upper dorsal and cervical region I think its use, even with the hand-rest when necessary, is very inferior to a well-adjusted steel support. Among the objections made by the opponents of the use of plaster of paris are its great weight, its occlusion of the skin, the danger of excoriations, and interference with thoracic respiration.

Yet it seems to me that these are of minor importance compared to the shrinking of the tissues under the plaster. As a result of this, the support becomes too loose and therefore ineffectual to a great degree; and if we cut it open in front and remove a piece, it is not the perfectly removable cast we had at first, but it now allows some lateral motion, and the patient soon complains of the lack of proper support. In the lumbar and lower dorsal region, which is by far the easiest location to treat in Pott's Disease, this objection is not so marked. The spine is here so flexible, and so apt to come forward from the steel support, that this latter evil is more than compensated for by the firm lateral and anterior support afforded by the plaster of paris, and, consequently, we more nearly immobilize the spine in this location by means of the plaster. In the upper dorsal region, which is the most difficult locality to treat in this disease, I do not find good results from the use of the plaster of paris, even if the jury-mast be used. We have not only the disadvantage here of being unable to get sufficiently above the disease with our support, so as to procure proper fixation, but we also have to contend with the constant irritation of the diseased vertebrae, caused by the movement of the ribs in respiration. We can more easily accomplish the desired effect here with a steel support, as we can thus go much higher and get a firmer hold above the disease.

Among the steel supports, I think there is none superior to the one devised and used by Dr. C. F. Taylor of New York. It consists of two uprights of wood, one upon either side of the spine, joined together above and below, and exactly conforming to the shape of the back. This is held firmly in place by straps attached to an apron which extends in front over the abdomen and thorax, so that the action is backwards at the hips and shoulders, and forwards at the point of disease. The uprights must be so adjusted that only sufficient force will be exerted to fix the spine, and to relieve the pressure from the anterior portion of the vertebrae

where the disease exists, and to make the posterior healthy portion support part of the weight of the body. In order to thoroughly accomplish this in the first two or three dorsal vertebrae, it will sometimes be found necessary to lengthen our lever above the disease by adding the head-rest to the uprights already described. In the cervical region the difficulties are not so great, the chief trouble being the motion and weight of the head. This is admirably obviated by the use of the same head-rest added to the uprights, which makes a firmer and much more easily-managed support than the jury-mast surrounding the plaster cast, as the latter must constantly yield from the weight of the head. These methods of treatment carefully carried out, with the persistent use of braces, I am confident will relieve a great deal of suffering, and prevent a great many curvatures.

ESSAY.

NINETY-SIX CASES OF CONJUNCTIVITIS.

By P. M. WILSON, M.D., BATHURST.

The cases of conjunctivitis in the table below have been treated almost entirely by cleanliness and disinfection, and comprise all the cases which I have treated in that way, exclusively, up to date. Seventy-five of the cases were catarrhal, five were purulent, five trachoma, and eleven unclassified. Fifty-eight were males, thirty-eight females. The average age twenty-eight. There were sixty-six recoveries, two failures, and in twenty-eight cases the final result was unknown.

Arranged according to diagnosis there were:

Of 75 Catarrhal cases,	{ 53 recoveries. 1 failure. 21 unknown.
Of 5 Purulent cases,	{ 8 recoveries. 2 unknown.
Of 5 cases of Trachoma,	{ 2 recoveries. 3 unknown.
Of 11 unclassified cases,	{ 8 recoveries. 1 failure. 2 unknown.

In the two cases in which the treatment failed (Nos. 4 and 35), prompt relief followed the use of arg. nit. grs. X and 31, applied to everted upper lid and its effect immediately neutralised with salt water.

Fifty-one of the fifty-five catarrhal recoveries, were under observation continuously until completely well.

Of these fifty-one cases, their average duration before treatment was 25 days, the average duration of the treatment was 11 days. In 13, cleanliness alone was used. In 28, cleanliness and disin-

fection were continued. Incidentally vaseline was used in 14 cases and Pagenstecher's ointment (hydrarg. ox. flav. gr. 3. ad. vaseline 3j) in two cases.

The short average duration of the treatment is, I think, remarkable.

The best results seemed to follow where the eyes could be regularly bathed about once an hour. If bathed oftener than this, the water seemed to make the conjunctiva too much. I think for water will meet a much larger number of cases than acid.

The boric acid was either put into the water used for bathing, or prescribed as a collyrium, or rubbed into an ointment with vaseline. I confess to an utter lack of system in using the acid. When to be used in the water, I think I ordered a teaspoonful to the pint as often as anything. When used as a collyrium, I find that my prescriptions varied from five grains to the ounce in saturated solution. The boric acid ointment was used in but three cases (boric acid, grs. xii, vaseline, 3i).

There is nothing novel about cleanliness and disinfection in treatment of conjunctivitis, but I do not think their importance is fully appreciated. Of course the more thorough the cleanliness, the less need there is for disinfection. Believing in boric acid might perhaps think it the main agent here. In my own judgment it is second in importance to the frequent bathing.

Dr. Chas. S. Turbulla of Philadelphia claims excellent results in the treatment of epidemic conjunctivitis as it occurs in asylums, from what he calls boroglyceride.* I have never used the bor-

*"Boroglyceride is made by taking of boric acid sixty-two parts and of pure glycerine ninety-two parts, and heating the mixture in a large evaporating dish, on a water-bath heat, until the product comes to lose weight. The residue will then be found to weigh but one hundred parts, that is to say, its manufacture entails a loss of over thirty-three per cent. This product on cooling, is found to be a body very hygroscopic, resembling in consistency and appearance ice or glacial phosphoric acid. It appears chemically to be a solution of boric oxide in glyceritic, which on exposure readily taking up water, converts the oxide into the acid. It is insoluble in ether or fixed oils, but soluble in water up to gr. xv. ad. 3i.

"To dilute it glycerine must be employed, and the best method for its preparation is when freshly made, to add to it glycerine in the proportion to make a fifty per cent. solution. This makes a preparation of the consistency of honey, to which can be added iodine, tannin, resorcin, car-

glyceride, but have one theoretical criticism to make. You will notice by foot note, that he first combines boric acid and glycerine, and the product "appears chemically to be a solution of boric oxide in glycerine, which on exposure, readily taking up water converts the oxide into the acid." Why the necessity of converting the acid into the oxide, only to have the oxide converted back into the acid before it can act upon the membrane? But if upon trial, it can be shown that the boro-glyceride is better in any way than the ordinary commercial acid, it is of course worth while to take the extra trouble to prepare it, and we shall be indebted to Dr. Turnbull for the suggestion of a new remedy.

Dr. J. B. Emerson of New York City, after treating two hundred and fifty cases of conjunctivitis during an epidemic in a boarding asylum, told me that he considered cleanliness the most important part of the treatment. Dr. Francis Volk, also of New York City, gave me a like opinion based on the treatment of an epidemic of a hundred cases on Randall's Island.

In conclusion, I would say, that the table below is a record of clinical fact, as accurate as I have been able to make it. My own opinions, based chiefly upon it are:

1. That a large majority of cases of catarrhal conjunctivitis will get well quicker by persistent cleanliness with hot or cold water than by any other method of treatment.

2. That as many patients cannot or will not keep their eyes constantly clean, some method of disinfection forms a very important practical part of this method.

3. That boric acid is a convenient and efficient disinfectant. It is cheap, almost all druggists keep it, and it is entirely unobnoxious to the eye, even in saturated solution.

The removal of any active cause for the conjunctivitis, must of course precede or accompany any method of treatment.

Salic acid, iodine, resorcin, drops, etc., as may be desired. The solution of boro-glyceride is made after the following formula.

- "B. Sal. boro-glyceridi. 3vi. ℥i.
Gela. petrol. 3vi.
Olei rose, q. s. ft. mass.

M.

"This makes a thoroughly stable mixture which neither becomes granular nor precipitates like boric acid." (Knapp's *articles ophthalmology*, March, 1884.)

NINETY-SIX CASES OF CONJUNCTIVITIS.

No.	Sex.	Age.	Disposition.	Duration of Illness.	Treatment.	Final Result.	Remarks.
1	Male	17	Calend.	2 days.	Hot Water & Boiled Archa.	Well in 3 days.	Prophylaxis common. Incubation time unobscured in a day.
2	Male	12	"	1 day.	"	"	After 5 days changed to dry. At 10, a. m. at. with clear in 10 days.
3	Male	15	"	1 week.	"	Unknown.	"
4	Male	10	"	1 week.	"	Unknown.	"
5	Male	10	"	1 week.	"	Unknown.	"
6	Male	10	"	1 week.	"	Unknown.	"
7	Male	10	"	1 week.	"	Unknown.	"
8	Male	10	"	1 week.	"	Unknown.	"
9	Male	10	"	1 week.	"	Unknown.	"
10	Male	10	"	1 week.	"	Unknown.	"
11	Male	10	"	1 week.	"	Unknown.	"
12	Male	10	"	1 week.	"	Unknown.	"
13	Male	10	"	1 week.	"	Unknown.	"
14	Male	10	"	1 week.	"	Unknown.	"
15	Male	10	"	1 week.	"	Unknown.	"
16	Male	10	"	1 week.	"	Unknown.	"
17	Male	10	"	1 week.	"	Unknown.	"
18	Male	10	"	1 week.	"	Unknown.	"
19	Male	10	"	1 week.	"	Unknown.	"
20	Male	10	"	1 week.	"	Unknown.	"
21	Male	10	"	1 week.	"	Unknown.	"
22	Male	10	"	1 week.	"	Unknown.	"
23	Male	10	"	1 week.	"	Unknown.	"
24	Male	10	"	1 week.	"	Unknown.	"
25	Male	10	"	1 week.	"	Unknown.	"
26	Male	10	"	1 week.	"	Unknown.	"
27	Male	10	"	1 week.	"	Unknown.	"
28	Male	10	"	1 week.	"	Unknown.	"
29	Male	10	"	1 week.	"	Unknown.	"
30	Male	10	"	1 week.	"	Unknown.	"
31	Male	10	"	1 week.	"	Unknown.	"
32	Male	10	"	1 week.	"	Unknown.	"
33	Male	10	"	1 week.	"	Unknown.	"
34	Male	10	"	1 week.	"	Unknown.	"
35	Male	10	"	1 week.	"	Unknown.	"
36	Male	10	"	1 week.	"	Unknown.	"
37	Male	10	"	1 week.	"	Unknown.	"
38	Male	10	"	1 week.	"	Unknown.	"
39	Male	10	"	1 week.	"	Unknown.	"
40	Male	10	"	1 week.	"	Unknown.	"
41	Male	10	"	1 week.	"	Unknown.	"
42	Male	10	"	1 week.	"	Unknown.	"
43	Male	10	"	1 week.	"	Unknown.	"
44	Male	10	"	1 week.	"	Unknown.	"
45	Male	10	"	1 week.	"	Unknown.	"
46	Male	10	"	1 week.	"	Unknown.	"
47	Male	10	"	1 week.	"	Unknown.	"
48	Male	10	"	1 week.	"	Unknown.	"
49	Male	10	"	1 week.	"	Unknown.	"
50	Male	10	"	1 week.	"	Unknown.	"
51	Male	10	"	1 week.	"	Unknown.	"
52	Male	10	"	1 week.	"	Unknown.	"
53	Male	10	"	1 week.	"	Unknown.	"
54	Male	10	"	1 week.	"	Unknown.	"
55	Male	10	"	1 week.	"	Unknown.	"
56	Male	10	"	1 week.	"	Unknown.	"
57	Male	10	"	1 week.	"	Unknown.	"
58	Male	10	"	1 week.	"	Unknown.	"
59	Male	10	"	1 week.	"	Unknown.	"
60	Male	10	"	1 week.	"	Unknown.	"
61	Male	10	"	1 week.	"	Unknown.	"
62	Male	10	"	1 week.	"	Unknown.	"
63	Male	10	"	1 week.	"	Unknown.	"
64	Male	10	"	1 week.	"	Unknown.	"
65	Male	10	"	1 week.	"	Unknown.	"
66	Male	10	"	1 week.	"	Unknown.	"
67	Male	10	"	1 week.	"	Unknown.	"
68	Male	10	"	1 week.	"	Unknown.	"
69	Male	10	"	1 week.	"	Unknown.	"
70	Male	10	"	1 week.	"	Unknown.	"
71	Male	10	"	1 week.	"	Unknown.	"
72	Male	10	"	1 week.	"	Unknown.	"
73	Male	10	"	1 week.	"	Unknown.	"
74	Male	10	"	1 week.	"	Unknown.	"
75	Male	10	"	1 week.	"	Unknown.	"
76	Male	10	"	1 week.	"	Unknown.	"
77	Male	10	"	1 week.	"	Unknown.	"
78	Male	10	"	1 week.	"	Unknown.	"
79	Male	10	"	1 week.	"	Unknown.	"
80	Male	10	"	1 week.	"	Unknown.	"
81	Male	10	"	1 week.	"	Unknown.	"
82	Male	10	"	1 week.	"	Unknown.	"
83	Male	10	"	1 week.	"	Unknown.	"
84	Male	10	"	1 week.	"	Unknown.	"
85	Male	10	"	1 week.	"	Unknown.	"
86	Male	10	"	1 week.	"	Unknown.	"
87	Male	10	"	1 week.	"	Unknown.	"
88	Male	10	"	1 week.	"	Unknown.	"
89	Male	10	"	1 week.	"	Unknown.	"
90	Male	10	"	1 week.	"	Unknown.	"
91	Male	10	"	1 week.	"	Unknown.	"
92	Male	10	"	1 week.	"	Unknown.	"
93	Male	10	"	1 week.	"	Unknown.	"
94	Male	10	"	1 week.	"	Unknown.	"
95	Male	10	"	1 week.	"	Unknown.	"
96	Male	10	"	1 week.	"	Unknown.	"
97	Male	10	"	1 week.	"	Unknown.	"
98	Male	10	"	1 week.	"	Unknown.	"
99	Male	10	"	1 week.	"	Unknown.	"
100	Male	10	"	1 week.	"	Unknown.	"

CASES OF CONJUNCTIVITIS—Continued.

No.	Sex	Age	Sex	Diagnosis	Duration before treatment.	Treatment.	Final Result.	Remarks.
38	S. W. M.	34	M.	Conjunctiv.	2 days.	Hot Water, Boric Acid, & Spray w. Fecl. of collan.	Well in 4 days.	Aggravated by warm oil, eye-lashes, constantly positive for the virus.
40	Mrs. with M.	34	F.	"	30 days.	Hot Water & Vaseline.	Well in 2 days.	
41	John M.	34	M.	"	1 month.	Hot Water & Boric Acid.	1 week.	
42	W. C. M.	34	M.	"	6 weeks.	Hot Water & Vaseline.	"	
43	Daniel M.	34	M.	"	"	Hot Water & Boric Acid.	"	
44	Michael M.	34	M.	"	1 day.	Collodion.	Unknown.	
45	John O.	34	M.	"	5 months.	Hot Water & Boric Acid.	Well in 2 days.	No better in 1 week.
46	John A. O.	34	M.	"	1 week.	Vaseline.	Unknown.	No improvement in 1 week.
47	John A. O.	34	M.	"	4 days.	Hot Water & Vaseline.	Well in 2 weeks.	
48	John A. O.	34	M.	"	9 months.	Hot Water & Boric Acid.	Unknown.	
49	James F. H.	34	M.	"	2 weeks.	Hot Water & Vaseline.	"	Main nerve in 2 weeks.
50	James F. H.	34	M.	"	5 days.	Ice & Bism.	"	
51	John H. A.	34	M.	"	4 days.	Hot Water & Boric Acid.	Well in 3 days.	
52	John H. A.	34	M.	"	11 days.	Hot Water & Vaseline.	Unknown.	
53	John H. A.	34	M.	"	4 weeks.	Hot Water & Vaseline.	Well in 2 weeks.	
54	Mary W.	34	F.	"	1 week.	Hot Water & Vaseline.	Unknown.	
55	John W.	34	M.	"	8 weeks.	Hot Water & Vaseline.	Unknown.	
56	John W.	34	M.	"	"	Hot Water & Vaseline.	Unknown.	
57	John W.	34	M.	"	4 weeks.	Hot Water & Boric Acid.	"	
58	John W.	34	M.	"	2 days.	Gold Cream.	Well in 1 week.	Palpebral and enlarged, eyelids with slight, glint and probably hyperemia.
59	John W.	34	M.	"	1 week.	Gold Cream.	Well in 1 week.	Protein accumulation from conjunctiv.
60	John W.	34	M.	"	1 week.	Gold Cream.	Well in 1 week.	Probably lacerated from use of eye-prompting.
61	John W.	34	M.	"	1 week.	Gold Cream.	Well in 1 week.	Loss of cornea exposed, using antiseptic.
62	John W.	34	M.	"	1 week.	Gold Cream.	Well in 1 week.	Antiseptic after 12 days, similar attack, glint and hyperemia.

No.	Name of the Owner.	Age.	Sex.	Treatments.	Time.	Remarks.	Remarks.
41	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
42	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
43	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
44	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
45	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
46	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
47	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
48	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
49	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
50	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
51	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
52	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
53	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
54	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
55	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
56	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
57	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
58	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
59	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.
60	John A. & Mary A.	14	F.	1 month.	1 month.	Hot Water & Vapor.	Old in 1 mo.

ESSAY.

STRANGULATED HERNIA

By GEO. W. HARRIS, M.D., Old Lyme.

The various ingenious and serviceable appliances for the relief and cure of ruptures afford in most instances a warranty against their worst contingencies. Yet strangulation is not very infrequent, and if the agony of the patient, and the almost absolutely certain death if left to nature, are considered, you will agree with me, the relief afforded by prompt and efficient interference, as strikingly illustrates the beneficence of our art as any occurrence in the whole range of human ill.

Your attention is requested to the following experiences and deductions from them, hoping they will be interesting and of worth to those who may have occasion to attend such cases of intestinal obstruction. Of course you will not expect me to exhaust the subject in the moderate limits of this article, and it will be my endeavor only to give some particulars which I have not observed in the writings with which I am familiar.

Many years ago, I was called in consultation to a case which the attendant was treating for "glandular enlargement of the groin and bilious fever."

The patient had been seized with colicky pains, nine days before, and although the acute symptoms were much mitigated, her condition was grave, and induced the husband and friends to regard her situation as extremely critical.

There was a black tumor in the right groin. It was probably femoral hernia, and if so, the color denoted a gangrenous condition of the constricted gut. Her countenance was not pinched, and the general appearance did not indicate her to be "in extremis."

We trusted mortification had not extended into the abdomen, and that there was a "forlorn hope" in making an exploratory incision to determine positively whether the trouble was hernial, and if so, to relieve the stricture, and aid nature in the formation of artificial anus. It proved so; and when the femoral ring was eased by a few gentle upward turns of a dull bone knife, a copious, and of course entirely involuntary, discharge of feces occurred. When anesthesia subsided she expressed great relief, and as feeling much more comfortable than since her illness; but upon our return next morning, we found her breath cold, and expression Hippocratic. She was entirely free from pain, and survived the operation twenty-eight hours.

I have made this narration in order to emphasize an important practical item. In such a sphacelated tumor, where were the landmarks? the skin, the superficial fascia, the celliform fascia, the fascia propria, the septum crurale, the peritoneal or hernial sac?

The integuments, I grant you; but below, a rotten conglomeration not divisible into their proper laminae by the most dexterously-handled forceps, scalpel, and director. What then? The femoral ring must be the objective point, and the handle of the scalpel will suffice to break up the pulsations mass without endangering the femoral artery, vein, or nerve, and when the director or finger had entered the ring, we knew we are down upon the hernial sac or peritoneum. And allow me to repeat: In femoral hernia, when you reach the femoral ring, you are upon the peritoneal sac.

To be certain of your locality, at this point of the operation, is most satisfactory, for if you trust to your director, the number of layers you can dissect upon, it will be puzzling, to say the least, in the most normal condition of the parts, and if abnormal you must be altogether uncertain.

The appropriateness of these remarks was illustrated by an occurrence eight years ago. The patient had noticed a swelling in the groin from childhood, but had never given it a thought until she called me to attend her for colic. It was a case of strangulated femoral hernia, and taxis was apparently successful, and would probably have been entirely so if she had followed directions and remained quietly in bed. But being so well she dismissed the woman who was helping in the house, and went about her affairs as usual. In three or four hours, I was summoned to find strangulation which defied all my efforts. I called my friend, Dr.

Graham of Saybrook, in consultation. We tried taxis under aconitine, and introduced an aspirator needle as recommended by Mr. DeMorgan of London, but ineffectually.

We operated, and easily reached the glistening tissue which represented the hernial sac, but in the effort to enlarge the opening in the fascia propria and septum crurale, to the side of the primary incision, my director could not be inserted between the tissues, and the sac was completely adherent to them. We tried to open the sac, but the thickness of the aspirated fold induced the belief that the gut and mes were adherent, and a very careful effort to dissect them made the apprehension almost certain; but when with care the external adhesions were broken up, and the director entered the femoral ring, certainty was assured. We knew we were upon the hernial sac, and that it was externally and internally adherent. We broke up the external adhesion, and returned the sac and contents, because it involved but one peritoneal surface. And permit me to add, she was again about the house within a week.

Now, obviously, but for the anatomical fact, that in femoral hernia, when the ring is reached, the sac is also reached it might be doubted—and warrantably too—whether the sac were externally and internally adherent. For the case is, so far as my knowledge of hernia goes, altogether unique. But with this criterion all doubts are dissipated and positive certainty established, and it becomes proven that adhesions may obtain between the sac and external tissues.

If the conditions are normal, the importance of the item is scarcely less. Does the director enter the ring very readily? in all probability, the stricture is in the neck of the sac, and it is not likely that relief will be obtained without opening the peritoneal layer of the hernial tunic, which certainly increases the gravity of the situation.

This was illustrated by a case of inguinal hernia, in which the rupture had probably existed from boyhood, although the patient had not been much troubled until his twenty-sixth year.

After cutting down upon the sac, and while carefully endeavoring to make an opening for the director, a fine stream of serum squirted into my face and saturated the surrounding parts. As the thought of having punctured the gut agitated me, I tried to distinguish the faecal odor, but did not, and concluded the serum was simply the contents of the sac. The knuckle of gut was found

after sitting up the peritoneum, and successfully reduced. The fate of the patient hung in the balance several weeks, however, for he had an attack of peritonitis, both severe and persistent.

But do not understand me as saying peritonitis will be caused by opening the sac, for I have repeatedly seen it done without, and it probably does not occur in the great majority of cases, but it certainly is more likely to happen than if the sac remains intact.

And do not apprehend me, either, that there will be no peritonitis if the sac is incised: for rude laxis, constriction beyond the capacity of nature to tolerate, toxæmia, rigors, and all the multifarious evils of intestinal obstruction, may produce it. Where so many elements of doubt exist, of course it would be presumptuous to say of even an incision itself, that a given attack of peritonitis was produced by it.

A paralytic condition of the sigmoid canal after an operation is very perplexing, raising serious apprehensions regarding pyrexia and delays convalescence beyond all expectations. It was thus with a patient of mine who was operated upon by my friend, Dr. Nelson of New London, after a strangulation of twenty hours. So long an interval had elapsed because I was not permitted to act, and was obliged to wait until the doctor's arrival. The paralytic discharge continued very abundantly for a couple of weeks, but resulted in a most satisfactory recovery.

There is scarcely any condition more perturbing than to find during an effort at taxis the rupture slip from under your touch, and yet find a tumor remaining in the exact situation it occupied. This may occur when the rupture is adherent, and the effort at reduction has relieved the strangulation, or other tumors may complicate the case. In such emergencies the feelings of the patient must be our guide, unless it be impossible for us to rest without an exploratory incision. I had such a case of irreducible ventral hernia complicating inguinal hernia of the gut. The patient experienced such complete relief after taxis that he vowed I "needn't bother about the old lump, for it had been there many years," and so we applied a truss, which he has worn ever since, with perfect satisfaction, notwithstanding the continued existence of an epiplocele larger than a ballroom.

It is an interesting inquiry,—How many radical cures follow the simple operation for strangulated hernia?

My experience has been with patients of very active habits, and

notwithstanding trusses have been employed as an additional safeguard against recurrence; I have never seen a case. This result might be expected from the conformation of the abdominal rings and the nature of the operation. The rings are not supposed to be loosened in caliber in any case by the procedure, and if the stricture is external to the sac, the size is very considerably increased, and the temporary support which retards the gut is afforded by the agglutination of the tissues external to the abdominal ring, and as they are naturally elastic and distensible, cannot be presumed to be any way safe, reliable, or permanent. I am induced to make these remarks by a conversation with the husband of one of my patients, who excused himself from paying my charges because "his wife had been a d——d sight worse ever since I had operated on her." And though, sootred the operation was not expected to effect a cure of the rupture, but to save her life, which would have ended very soon but for the successful result, his anger was not alligabed, and he tipped out with an oath, "He was sorry I had ever touched her."

The importance of giving earnest, prompt, and efficient attention to strangulated hernia might be profusely illustrated by reciting the numerous instances alluded to, I had almost said *by*, which they are not, by their physicians to drift hopelessly to dissolution, unless the faint gleam of the spontaneous formation of artificial sacs be called a cheering contingency.

This spontaneous occurrence I have heard of in one well-authenticated case as happening many, many years ago. I have never seen it, and it must have occurred when man was of a different nerve and fiber from the present. But I have known of six well-authenticated cases of strangulated hernia dying right in my neighborhood, without an effort being made to operate. In hopes all these may have been excusable in the neglect, I append the following case:

The patient, T. S. Champion, was quite a local celebrity, the compounder of "Champion's Linimentum" and "Fresh Wound Lotion." Perhaps many of you have heard of him, and some knew him well. A poor doctor, of course he was hard to manage professionally, and thereby, I think, he met his fate. Paranthetically, he claimed the invention of "Champion's Ulceratic Hernia Instrument," but the truth was made by Dr. Thompson of Thompsonville.

When called to attend Mr. Champion, I found him wearing an instrument tried, or rather misfitted to him by a Hartford druggist, whom he had taken pains to visit for the especial purpose. It was a single truss, and extended around from his back, across the sound side, over to the seat of rupture. He was ruptured in the right groin, and the truss extended from his back, around the left hip, down into the right inguinal region.

He had been directed by his doctor, many years ago, by Hartford, and had taken all pains to have the most satisfactory appliance afforded by science and art, and yet such an outrageous mistake had been foisted upon him. No wonder the poor fellow thought he could improve upon it, and that when quizzed, being asked, What do you mean by *ultrastric*? replied:

"I mean the best, and after it, there couldn't be any other."

"What do you know about ruptures?"

"O, I've studied!"

"Studied? Studied what?"

"Why, studied my butt, of course!"

I will say the instrument made and sold by Dr. Thompson was as good a truss as I have ever seen. They sell many in my vicinity, and though years have passed, I have yet to hear the first complaint against them.

Champion had one, but he thought so much of it, he never wore it, and kept it for exhibition. And well he might value it highly, for it represented all he ever received for his invention, and the sale of the instruments, and many a weary mile running around to lure up the ruptured.

It was a source of surprise that the outrageous imposition obtained in Hartford had not produced strangulation before, for he must have worn it more than twenty years, and it was only explainable by the inactivity of his habits. He had stuporose nights, and the least exertion made him so asthmatic he could hardly breathe; this also gave a jerky and apparently energetic tone to his conversation which was however entirely apart from his nature, though he was bright enough, particularly excelling in repartee and billingsgate.

If you will imagine a short, very *obese*, smooth faced individual wearing along in old patched overalls and parti-colored coat, it will not be a misapprehension of our subject; a typical *Idemadine* towards domestic, verily believing all physicians impostors, pre-

tensions and powers for effect, and that without subterfuge there could be no talent, or, as he would term it, "smartness." He was not altogether illiberal, often disposing his compounds gratuitously, rather than not have them used, and in this manner largely dissipated a property of five or six thousand dollars.

His rupture became strangulated Monday. I was not summoned until Tuesday, after he had repeatedly tried to reduce it.

A large dose of morphia was administered, and after waiting half an hour, taxis was tried, and we thought with success. His relief he expressed as complete, and I could not detect any tumor remaining. I left him with directions to take a good cathartic at night, and if his bowels did not act by next morning, to advise me immediately. It was unavailing. His home was between three and four miles from my office. A very severe snow storm set in that night and did not clear away until the Friday night following. On Saturday at noon the man who lived with him came for me, and reported him sick at the stomach and vomiting, but without any pain in the location of the rupture or abdomen. I immediately rode down to him, finding him as relaxed and without abdominal tenderness. His bowels had not moved, and "he had vomited all the physic taken," that his rupture had not troubled him, and he ascribed his condition to a "bilious attack, such as he was accustomed to frequently."

My opinion did not coincide with his, his view being altogether hopeful, I could but wish it correct.

It seemed as if the gut had been irretrievably injured before reduction, or that a segment might well be within the internal abdominal ring, and in consideration of the absence of pain and tenderness, it was gangrenous. His facial expression was good, his pulse and temperature fair, judging by my touch, but I did not think an operation offered him the best hope.

He kept along, with frequently-recurring paroxysms of sickness and vomiting, until the Tuesday morning following. His mind was clear until the last, and he remained confident there was no trouble about him, only being "upset at the stomach and biliousness." His attendant informed me that when he had a stream of blood of considerable size was ejected very forcibly from his mouth, and I thought perhaps Mr. Champion was correct in his diagnosis.

Necropsy revealed no lesion of the stomach, and the blood must have been an exudation caused by an engorgement of the viscera,

and a serious obstruction to venous circulation produced by dilatation of the right chambers of the heart, a product of his old emphysema.

About three inches of the ileum, at the junction of its middle and lower third, were a dull, brownish black, and required some little force to detach it from the internal inguinal ring, which still constricted it. When separated, a black circle about the size of a dime, in the middle of the black patch, showed how slight the grip was which the ring retained on the gut, and, unless the taxis had been injurious beyond recovery, how slight a strangulation sufficed for fatality. But for his old heart and pulmonary troubles, this would have been a proper case for excision, as recommended by Billroth.

Another moment and I have done? It has been a constant surprise, when reading about hernia, that no mention is made of this fact: In all ruptures, excepting inguinal, when you reach the abdominal ring through which the gut escapes, with your finger, or introduce your director within it, you are immediately upon the hernial sac.

This truth affords the most facile guide in all operative procedures for the relief of the strangulated hernia. Even in the inguinal varieties, where the fascia transversalis is still interposed between the scapel and the peritoneum, you will find the effort to evolve them separately very unsatisfactory, perhaps impossible, and most assuredly not worth your while, when bleeding vessels and the sponge of your assistant alternately hide the necessarily minute dissection, even if forcible distension and irritation have not changed their juxtaposition into uniformity—which is not at all unusual.

Be the case inguinal, femoral, Umbilical, or Ventral; be it Epiploic or Gut; be the stricture within or without the sac, your primary objective point and most certain guide should be the aperture through which the peduncles emerge from the abdominal cavity. You reach it, and even with old adhesions gluing the neck of the sac and ring together, you distinguish its form and edge, and intuitively appreciate the diffluent nature of the surrounding sacculi. You carefully penetrate the ring, the strategic point is won, and success assured.

It is almost axiomatic, therefore: In all strangulated ruptures, MAKE THE GUT YOUR GUIDE TO THE GUT, INSTEAD OF MAKING THE GUT THE GUIDE TO THE RING. Thus you reduce the chance of injuring the bowel to the lowest minimum.

ESSAY,

MALARIAL DISEASES CURED WITHOUT QUININE.

By ANDREW DEANISLEY, M.D., BIRMINGHAM.

GENTLEMEN OF THE PROFESSION.—

At the Annual Meeting of the New Haven County Medical Society, held at Waterbury in April 1898, I read by appointment a paper on the "Treatment of Intermittent Fever in all its forms." Hurriedly written as it was, it only sketched forth general principles as deduced from careful clinical observation, and also close and studied investigation into all the facts as evidenced and established in clearly-defined individual cases, and these, with me, have been many within the last twelve months. Since the publication of that paper I have had numerous letters from physicians asking me to be more specific and practical in my Therapeutics in this disease which has now become so common, so much dreaded, and so wide-spread in certain localities of our country.

I may as well say here, although I used to administer it until I learned better, that the popular and prevalent practice of loading malarial patients with quinine in some form or another, now so fashionable among many leading physicians, among druggists, and patients themselves, who take in better doses this medicine, on the strength of their own prescriptions, has no sympathy nor sanction with the writer, who has, he thinks, a far better, more pleasant, certainly more successful mode of curing this disease, which will presently be shown.

The "*Cinchona Officinalis*" of the shops, now in use more than one hundred years, is varied in its qualities, as shown by different authors, its pharmaceutical preparations numerous, we having at least forty officinals which are kept in every full and well-regulated drug store. Forty officinals from the acetate of quinine all

through to quinquina with iron strids, while the various combinations as something new and wonderful, like some patent medicines with high-sounding, meaningless coined names, belonging to no dialect, are being daily forced upon the profession, the public, and the druggists "for trial." Their number, like the locusts of Egypt, is legion, and for the vulgar profession to accede to the wishes of the vendors of these spiritual preparations is simply superstition. I do not ignore quinine when properly indicated, though in consumption, especially in malarial districts, I believe it is on the increase. In one town in this State, with a population less than Derby, a reliable salesman showed me his monthly sales of quinine *per se* to one drug store, which amounted to 52 ounces, and he also informed me that he knew of one physician in that town, I might as well say city, who averaged daily seventy-five recipes for malaria, all containing more or less quinine. Fifty-two ounces a month, mind you, only in one drug store. As I am dealing in facts, I propose to come a little nearer home. Derby, with a population of about fourteen thousand, has six drug stores. I take one for the average, which sells about twenty ounces of quinine a month without the cinquinids. This would give the sales in Derby monthly, say at least 120 ounces, and yearly, 1,152 ounces, reduced to pounds, say about seventy-two. I do not overstate the facts. If curative, why is the administration of this drug continued from week to week, month to month, and year to year? I allude to this sale of quinine simply to show how universal its use, while I might say, the malarial antiseptic poison, is still "master of the situation." A dose of quinine, a brisk anti-bilious cathartic, or many preparations, I might mention, may shake off the chill and if the system is not too much charged with the poison, the powers of nature will fully restore the patient to a healthy standard. The chills and sympathetic disturbances so common and well known in malarial affections, are not the disease; this and its proximate cause lie back of these symptoms, and are found in the blood and its great separator, the liver. I believe this to be true in every case of purely malarial disease, and I cannot better illustrate my views than by citing just in ample short detail cases that have clearly and unmistakably been cured by my course of medication, where months and years have signally failed of cure under the old orthodox practice of crowding the patient with quinine or some of its preparations. Why, whole families, to their

detriment, are living on quinine the year round to my knowledge, and in this way dragging out a lacerated existence which will ultimately break down the individual who indulges in it.

I give you mostly cases, rather chronic, long tried, with only temporary relief with quinine, as the principal remedy, and this should disarm you of unjust criticism, as I do not understand my purpose to be quinine, but what is doubtless more valuable, both to physician and patient, proved, and with these desultory remarks made in the spirit of a mutual and common benefit to our profession, I give you as the first case, the following from my memorandum notes.

Mrs. C. S. J., age 24, of nervous, delicate constitution, seized May 15, 1882, with typho-malarial fever. A previous attack of malaria had warned her that no preparation of quinine could be tolerated without the most unpleasant, if not injurious effects. Intercole, shivers, rapid pulse, high temperature, delirium, etc., about 2 p. m. every afternoon. Continued treatment by giving small doses of aloes and sublimiate until free bilious evacuations were procured, and as an anti periodic gave arsenious acid, $\frac{1}{16}$ gr. every three hours. To reduce the pulse and lower the temperature she took grain of gelsemium rad., with a simple tonic of eupatorium calceia, with bicarb. soda as stomach would bear. She improved, but soon relapsed, and her case became alarming. Great prostration, dry, red tongue, no decided chill, but occasionally cold sensations along the spine, and a variety of symptoms not easily defined. Continued same treatment, with the addition of the following tonic mixture, which I have used extensively as a substitute for quinine or any of its combinations, sometimes adding or diminishing some ingredients to suit patient or a given case:

℞ Rad. Gentian,	3 iss.
Rad. Ostrya,	2 ii.
Sess. Calce. (sa,	3 i.
Sess. Aloes, (
Sess. Fennel,	3 iss.
Sess. Cardamom,	2 ii.
Cori Aromatic,	3 ss.
Sulphur,	3 ii.
Soda Bicarb.,	3 ss.
Pure. Soc. Aloes, Opt.,	2 ss.
Pure. Illid., Opt.,	3 i.
Rad. Serpentina,	3 i.

M. and grind in drug mill.

Fluid Extract of Eupatorium ʒi to be added to the dry powder when used for the Tonic mixture.

Take 4 ounces of this mixture, pour 2 quarts boiling hot water, steep slowly over the stove 30 minutes, strain off, and add 1 pint of good spirits, and bottle for use. Take 3 small wineglassful three or four times a day. If the stimulant is objectionable, make a weak infusion of the Tonic mixture and use as the stomach will tolerate. This treatment was continued with little variation up to September 1st, and the patient, though long feeble, is now in the enjoyment of better health than for years previous.

One word here in relation to gelsemium, the yellow jessamine, a deadly poison, but a most beautiful diaphoretic plant of the south. Its virtues, as you know, were accidentally discovered through a mistake by a southern planter, the root being used in place of another in certain fevers. The Mississippi planter used it extensively on his plantation in fevers of various types, then "the irregulars" and "collectors" used it freely, and finally its merits being thoroughly tested, the regular profession adopted it, and it is now I believe in pretty general use. I regard it as one of the most valuable remedial agents we have in the treatment of pyrexial diseases. It is an arterial sedative, reducing the force of the circulation and lowering the temperature of the body to its normal condition. I give it in most febrile diseases in one-fiftieth grain doses,—if you please, Warner's Parrulee every two hours until the desired effect is produced. You need not take my word for it, but if you will give them a fair trial, watching their effects closely, you will find that I am not unbleeding you. I have used them more than a year in pyrexial diseases with the most satisfactory results, and do not yield my experience of their properties to those who have never tried them.

Mrs. E. D., of Derby, aged 67, mother of eight children, in apparent good health, though feeble at best, was suddenly seized in the early part of May, 1883, with hemiplegia, loss of speech and mind, face drawn upon one side, expression idiotic etc. At the end of about thirty days she rallied, and at about 2 p. m. every other day she had chills, excessive vomiting, high fever, profuse sweats, etc. I pronounced her case masked typhoid and at once put her upon alterative doses of aloes and subnitrate, often repeated, until free bilious discharges from the bowels were produced; reduced the temperature and arterial circulation with gelsemium, and during the apyrexial stage gave simple aromatic tonics, with eupatorium and h-eath, etc. In less than one week

she improved. I then gave her the Tonic mixture mentioned in case first, keeping her bowels open occasionally with alteratives. She has permanently improved, and now walks the streets with a more elastic step than for years.

It may puzzle the pathologist in his diagnosis to say whether the first attack was malarial or that this was superinduced by the former, but I am inclined to the opinion, that as a complete cure has been effected by what I deem appropriate treatment in pure malaria, that this was the trouble in the beginning. You may differ with me, but if physicians did not disagree at times in their views there would be less study and research into the true etiology and proper treatment of any given perplexing disease.

Called July 9, 1883, to see Mrs. S. H. P., seized with prolonged congestive chill threatening fatal termination. Age 53, a hard-working, industrious woman, who had resided in York State three years and eighteen months. During this period she had been the victim of chills and fever. Some days she had taken 75 grains quinine, with increased doses on subsequent days, and still the disease continued. She had chills and fever once a week or sometimes only once a fortnight. "What have you taken, Mrs. P., all this time?" Pointing to a bottle on the mantel-piece, marked 100, 3 grains Sulph. Quinine Pills, she said, -I have taken that stuff until I have almost lost the use of my lower limbs, my eyesight, hearing, memory, and audition, but this is the worst chill I ever had, and I shall die, if I have another." She was sallow, cadaverous, and emaciated. Carefully weighing her case, its history, &c., I commenced treatment with small doses of aloes and sub-nitrate, and allayed the distressing constitutional symptoms with gelatinous. Copious bilious evacuations set in. I encouraged these, and then put her upon the Tonic mixture with occasional alteratives, and from that day to this she has had no chills, but her general health is all that could be desired. The good woman made me a present of her 3-grain quinine pills, and I keep them to look at. It is proper to state that this patient continues the use of the Tonic mixture, occasionally with alteratives, when needed.

Mrs. H. W. B., aged 18, September 12th, gave birth to a child after a tedious labor of 36 hours. She was an uncommonly smart and healthy woman, having scarcely had a sick day from birth up to the time of her confinement. On the third day after this she was seized with prolonged chills, vomiting, delirium, checking of

the secretions, *Ichia*, etc. As her bowels were much swollen and painful, I attributed the chills to this, but the next day, about 2 p. m., another chill, as above, occurred, with dry flabby tongue, dark red edges, sallow look, high fever, embarrassing cough, and every symptom indicating serious if not fatal malaria. A tremendous pressure was brought to bear on me to give quinine in large doses, but I assured interested parties that this was not the remedy. I gave her mercurials until free evacuations of bile began, used goldsmith's to equalize the circulation, mild aromatic tonics with bi-carb soda, etc. Chills and fever continued unabated until the 5th day, when the *Ichia* were re-established, the lateral secretion became abundant, and convalescence was rapid, and patient has had no malaria since.

Mrs. J. C., of Derby, age 34, mother of 4 children, constitutionally delicate, and of nervous temperament, had been a victim to chills and fever two years. She was treated one year in Derby, consulting the best physicians in New Haven and elsewhere, and one year was with a friend in Hartford under treatment, and all this time she took severely a prescription that did not contain largely quinine in some form. Emaciated, yellow, almost dead, weak, confined to her bed much of the time, catarrhus in look, as a *derelict* *revert* she fell into my hands in January last. I commenced treatment with small doses of aloes, with arsenious acid $\frac{1}{12}$, given as an antiperiodic. Calomelium when needed, and the Tonic mixture taken every day, have been the principal remedies, and she has not had a chill or any unpleasant effects of malaria since the end of my first week's treatment. She is growing fleshy, walks to church, and tells me she has not felt better in four years time. She is cured after having been quinned two years with no permanent relief.

Mrs. A. D., of Huntington, aged 38, was suddenly seized October 7, 1863, with chills. Two physicians, her uncles from New York, both skilled and enjoying lucrative practice, happened to be in the neighborhood on the day of the attack, attending the funeral of a relative. They examined the patient, and pronounced her disease typical malarial *pyrexia*. Early next morning the father of the young lady called me up and with a sorrowful look said, "Doctor, I am going to lose my daughter;" at the same time handing me a card from the doctors, inscribed as follows:

"Temperature 103; Respiration 38; Pulse 120.

"Left lung deeply involved, as you will find.

"Would advise very large doses of quinine, and such other remedies as you think best."

Patient lived five miles out, and I made haste to see her. On examining the case I regarded the diagnosis made as correct. I did not however venture upon the "large doses of quinine" but gave her alternatives of aloe and sub-carbates, until I got copious discharges of bile. Covered the left lung with a large blister, and reduced pulse and temperature with galbanum. Gave tonics and diffusible stimuli as indicated. She improved, and on the 24th day from the attack, she was discharged *well*.

In the same neighborhood, F. W., aged 21, had violent chills and fever, of tertian type, which had lasted him one week before I saw him. Gave alternatives and the Tonic mixture, and in five days he was entirely *well*, and he continues free from chills and fever up to this date, now seven months.

Mrs. I. Z. of Derby, 31 years of age, delicate thin, of spare habit, affected with inextinguishable cough, was seized with chills and fever in December, 1883, of tertian type, paroxysm prolonged and violent. Naturally and from education averse to any kind of medication, after suffering two weeks or more, despairing of recovery, I prevailed upon her at last to let me give her simple remedies, assuring her that my medicines would not be as bad as her chills and fever. I gave her small doses of aloe and magnesia, $\frac{1}{4}$ gr., using galbanum when needed. As soon as her stomach would bear it, I used the Tonic mixture, with nourishing diet, and she has not had chills and fever since the fifth day of my treatment. Her husband assured me only a few days ago that her health had not been so good as it now is within the last five years. What is rather singular in this case, her old chronic cough seems to have almost entirely disappeared since breaking up the chills and fever.

Mrs. H. of Birmingham, aged about 50, was seized with congestive Chills in August, 1883, with nausea, vomiting, dry tongue, dark red edges, very sallow countenance, shivering great prostration, pulse 124, temperature 104, distressing cough, and at times delirious. She was accustomed to severe and frequent attacks of malaria, and quinine was always her remedy. I commenced treatment on my plan. In my absence she had another chill, more violent than the

first, and her family being alarmed, a neighboring physician, popular and in full practice, was called in, who suggested for my approval large doses of quinine, but I did not adopt the suggestion. Prognosis was decidedly unfavorable, but the patient rallied under my alternative and tonic treatment and entirely recovered, and has had no chills and fever since Aug. 20, 1882.

Mrs. P. A. O. of Huntington, came to me early in January, 1884, and said she had a daughter in Fairfield, a school teacher, suffering with chills and fever every week or two, and had been so for three or four years. She had taken quinine until it had no effect except to disturb her hearing, head, locomotion, etc. Without seeing her, I prescribed aloes and subnitrate in small doses, and at once put her upon the Tonic mixture. The 10th of May she came to see me again, and said her daughter had not had a chill since the first week after taking my medicines, and wanted to duplicate the order for more of the same sort. She is still free from malarial.

Mr. U. D. C. of Derby, for one year under the quinine treatment almost daily, age 2½, good habits, thin as flesh, sallow look, etc. As he had lived on quinine a year or more without cure, I persuaded him to try my plan, and I put him upon aloes and subnitrate in small doses, often repeated, with Tonic mixture, and in less than a fortnight his malaria was gone, he has grown fleshy, and for the last five months enjoyed good health, and says: "No more quinine for me."

Mr. J. E. of Derby, age 35, vigorous, occupation house-carpenter, in April, 1882, had paralytic stroke; had been fighting malaria for more than a year with quinine. I regarded his case as malarial, and treated him accordingly. He soon recovered and went to his work. In February, 1884, he said to his wife, "I feel like the chills again," and on the 21st of same month had a severe stroke of hemiplegic palsy, with complete loss of power in muscles of sensation and volition, unconscious, fetid odor, delirium, involuntary discharges—all his symptoms pointing to approaching dissolution. Still regarding the attack as malaria in the background, I treated him as such, and to my great surprise in less than four weeks the man was able to be about again. He can talk and is now at his work, in the end of ten weeks from the attack. I submit it to your judgment, was this a case of palsy or malaria?

Mr. A. L., age 58, a teacher and professor of music, was seized March 15, 1884, with powerful chills, which had troubled him for

several days. There was great difficulty of breathing, sallow countenance, dry red tongue, delirious, pain in left side. Temperature 103, respiration 44, and pulse 120. Twice before, the left lung had been broken down with circumscribed pneumonia, and little hope was given for his recovery. Covered left lung with large blister, gave him gelsemium $\frac{1}{2}$ gr. every two hours until I reduced his temperature to 100, and the pulse to 74, and respiration to 32. After the third day patient could lie down, and prognosis was more favorable. This was clearly a case of typho-malarial pneumonia. At the end of four weeks he was able to ride down town. His treatment was blisters, alteratives, gelsemium, Toxic mixture, and diffusible stimulus as indicated. You will see by this time that I am not lavish in medicine, and also I deem important in almost every febrile disease.

One patient from the vicinity of New Haven, Mrs. S. W., has taken over one hundred prescriptions within the last 18 months, all containing more or less quinine, without cure. Under my treatment, with small doses of aloes often repeated, the Toxic mixture, and occasionally a mercurial alterative, the malaria has entirely disappeared, she being free from it for the last five months. She was emaciated, sallow, full of sympathetic pains, and was having chills and fever every few days when she commenced the alterative treatment. This case is one of many, and fully illustrates my views. I remark here with regard to the materials I have used in malarial affections, that I have never known their specific action exerted upon the salivary glands in a single instance. Every case of malaria, however, needs to be studied, adapting the treatment to each individual case, as every judicious physician can see for himself. One patient requires a brisk anti-bilious cathartic, another more delicate and reduced calls for small doses of aloes, at first, and arsenic as an anti-periodic, while a third should be carefully watched with regard to constitutional predisposition, complications with other morbid conditions of the body, &c. These should be steadily kept in view by the practitioner.

Mr. H. W. H. of Huntington, was seized August, 1853, with typho-malarial fever, strong, vigorous, of full habit, age 31; his attack was unusually severe, with great prostration and violent delirium, constantly up to the 12th day. Mercurial alteratives, gelsemium, counter irritants, mild vegetable tonics, nourishing

diet, and diffusible stimuli, make up the treatment. He entirely recovered from the attack after four weeks.

Mr. M. H.'s two sons, on White Hills, Huntington, aged 12 and 15 years, had been quinned, the former three months, the latter two months, for malaria, without cure, only for a day or two at a time. Early in January, 1884, they fell under my treatment, which was simply aloe, and subacetate in small doses, often repeated. Tonic-mixture, Eupatorium and generous diet. There has been no malaria, or any symptoms of it since the second week in January. Such cases are very common in my practice. I should have remarked before that I prescribe Eupatorium in some form, in all cases when the stomach will bear it, and can instance more than seventy-five families in and out of Derby, that are using, with good results, this valuable prophylactic against malaria.

My list of *purely* malarial affections, *clearly* marked under my treatment for the last 16 months, besides minor ones, numbers 164. It would tire your patience, besides it is entirely unnecessary to illustrate further, by citing cases in which I have not given or allowed, to my knowledge, one particle of quinine, or any of its compounds. I have witnessed only three cases of malaria proving fatal, and these were complicated with organic disease. Every case that I have detailed to you is an average of the whole and can be fully verified by living patients who have been permanently cured, after being long and uncessantly poisoned. I am simply giving you practical facts which cannot be gainsayed.

Mrs. N. M. B., age 68, mother of seven children, in good health, was seized April 16, 1884, with complete palsy of left side; congestion of left lung; loss of speech, mind, etc. Every symptom indicating total shipwreck of the mental and physical energies of the body. It was in a malarial district, and as the son of this woman, in the same house had had malarial malaria, I suggested this might be another case in a different form. I was laughed at; but the patient grew weaker for three weeks, under treatment usual in severe palsy; had a chill lasting 2½ hours, pulse 140, temp. 103, respiration, 44, nausea, vomiting, great prostration, etc. I at once put her under treatment appropriate for malaria, such as mercurial alteratives, gelseminum, Tonic mixture, etc. In a few days she astonished her friends and family, who had abandoned all hope of her ultimate recovery, by slight improvement in her most alarming symptoms, and she continued to improve until she is now able to walk

from her sick-chamber, clothed in her right mind, with every prospect of complete restoration to health. This case is interesting, and fully illustrates many others, under the name of "malarial diseases with their complications in all their forms."

I instance one family in Derby, where typho-malarial illness, in the first victim, age 21, proved fatal in fourteen days from the attack. The patient was heroically treated with liberal doses of quinine, and by a skillful physician, too. In this same family five malarial cases of similar types to the first occurred, and the treatment in every case was successful under my course of medication; not one particle of quinine being used in either case. These cases, and they are enumerable of proof, speak volumes in favor of the non-quinine treatment in pure malarial affections.

In one family, B. H. of Derby Narrows, five sick with malarial affections, three yielded to common alternative treatment, and two required doses and emmenagogue hydr. in small doses, and arsenious acid, $\frac{1}{12}$ gr. doses for some days. This whole household, five in number, all weakened with genuine malaria, were entirely cured without one grain of quinine being taken, and continue cured to the this date, now for months. I could multiply these cases in detail, but deem it unnecessary to do so in order to establish my relation to quinine, as a non-curative in genuine malarial diseases.

I will say here that I have not met with a single case of pure malaria, except three, that did not yield to my treatment without quinine. In these cases, complicated as they were with organic disturbances, recovery was prolonged, but finally successful, giving me the great satisfaction of fully corroborating my position in every case of malaria for the last year or more, coming under my observation.

I leave this, gentlemen, volunteered my experience in the treatment of malarial diseases, diagnosed and treated as such by other physicians as well as myself. This relieves me from any charge of coming cases for the sake of illustrating my position, and with great respect and all due deference to your learning, researches, and wisdom, I could not stand before you in the advocacy of my views, if they were not well grounded on the principles of inductive philosophy which I regard as the principal basis of our profession. Theory, however ingenious, scientific, or metaphysical, amounts to nothing, unless the remedy proposed is practically tested on the living fiber. Many of our most valuable remedies

are the result of accident or blind adventure of some ignorant pretender, but none the more to be despised or ignored when improved, and properly administered by the careful and judicious physician. Without reference to books, without attempting to be scholastic, I have given you in the plainest language what has come under my own observation, at the bedside, and as you may differ with me, *honestly*, as I fancy you will, I claim from your indulgence the merit of believing me honest, with no other object in view, after more than half a century's direction to the sick and afflicted, than a common benefit to our profession, and to those who may be so unfortunate as to be placed under our care and skill for *prevention* and for *cure*.

In conclusion, I have endeavored to make myself understood in a practical sense, without theorizing or saying anything as to the origin of malaria, for these have not been my province. I am so firmly established in my convictions that I am right in the treatment of *pure malaria*, complicated or uncomplicated, masked or unmasked, that in no case have I used one particle of quinine or any of its compounds, now almost numberless, within the past 18 months, with what success my record shows. If I were to give you 100 cases in detail they would not justify my treatment more than those I have already given you. Individual cases must be studied. The weak and delicate in constitution, in predisposition, etc., require mild medication. It is not the amount or frequent change of medicines given that *cure*, but the proper adaptation of remedies to the individual patient in charge. After studying and watching *clinical facts* for fifty-two years, the young and ambitious physician of to-day may look back through the dim retrospect of the past, and see for himself how easily fatalistic diseases be cured, with a few simple and well-chosen remedial agents.

DISSERTATION.

THE GERM THEORY OF DISEASE.

By N. E. WINTON, A.M., M.D., BANCROFT.

The true man of science is perpetually striving for a better and closer knowledge of the world around him, and as science and art have permitted instruments which enlarge his ken he extends his knowledge until it, by computation, extends to infinity in space, or by deduction to the infinitely small of created things. With Kepler we point the telescope, discover the laws governing the heavenly bodies and exclaim, Oh God! I think Thy thoughts after Thee! With the spectroscopic we study the stars, and declare the stars are sisters to our mother earth. With the microscope we find wonders within and all around us and are led henceforth to call nothing small. While the instruments that point upward attract the scientist *per se*, those which are turned within allure and profit the scientific physician. Diseases heretofore undiscernible, diseases hitherto unrecognizable, find here their open secrets, their secrets revealed, their mysteries made known. But the earnest physician is not content with stilling pain, with staying the disease, with saying even to grim death, as sometimes he may, thus far shalt thou come and no further; he desires to say to sickness and to pain, let go thy hold; aye, come not near.

The study of the causes of disease is now advancing to the front. How to keep off these enemies occupies the best and most progressive thought; we seek the prevention, better than the cure. Here experiment and theory have expended their efforts hitherto in vain. Nothing has yet met all requirements and answered all tests. We eagerly grope, and earnestly catch each hope thrown out, only to be disappointed in part and only to try again. But within the past decade has appeared a vital germ which would

seem to bear the tree of life. Its fruit may be as disappointing as the apples of Sodom, from it we may gather golden harvests such as grew in the fabled garden of the Hesperides. No more interesting subject is now before the medical profession of the world than that of the germ theory of disease, and although I may be able to offer nothing new to the much which has been written even since the last meeting of this society, I trust that the subject, brought before the physicians of the State, may cause earnest, careful consideration, and that this little pebble, cast not heedlessly into the great gulf of thought, may make its widening circle felt upon the nearest shore.

The investigations of only a few can be considered reliable. Much expense is involved and much skill required to manipulate microscopes of powers high enough to define objects $\frac{1}{250,000}$ inch in diameter so as to distinguish the spherical germs, the micrococci of innumerable species differing in shape or motion, the rod-like bacteria or the vibrio constantly changing its form. Foreign governments by lavish endowments make it possible for Pasteur or Koch to live in their laboratories, supplied with all necessary equipments for their work. They have a skill which experience alone can acquire. Few are they in this country who can gain the position which shall enable them to say authoritatively on the subject. Let it be ours, then, to labor, as we can. We must at least enter into the labors of others by comparing results, contrasting arguments, using unprejudiced minds in drawing deductions, striking at weak places in the standing of either advocate. Leaving out of consideration for the moment the result of microscopic investigation, the actual discovery of microbes in the circulation, in the various glands and secretions or in the sputum, there seem to me to be certain reasons or analogies for believing the germ theory of disease to be a correct one. I say a correct one, for nobody pretends that it will account for all the ills to which flesh is heir.

Ever since the discovery of the torula or yeast plant by Schwann in 1837, with the results of its growth by Prof. Huxley, and the important and thorough researches on fermentation by the indefatigable Pasteur, the air we breathe has been thoroughly studied as a carrier of germs. That it is so, Prof. Tyndall, by a series of brilliant experiments as simple as conclusive, has proven. Mold, fermentation, decay, are no longer thought to be dead chemical processes, but results of active life, the rapid multiplying of infu-

tional germs. Myriads of these germs are seen everywhere; some of them take root and grow in one substance, some in another; those which do not find the peculiar nutriment they need, perish. As the wheat produces only wheat and the daisy seed brought but the branching pale, &c. the mustard-seed bears its own bush and the fly hath its graceful larva, so every germ "after his kind." This is the law of nature whether manifested in the vegetable or animal kingdom. "The wind-sown germs falling upon the surface of bread, or cheese, or preserves, grow into tiny forests of pearls and variegated and lustrous, which we, with our coarse vision and rude classification, contemptuously name mould."

It is claimed by advocates of the germ theory of disease that diseases in general, and infectious diseases in particular, are produced by the introduction into living organisms of minute parasitic forms of life and their subsequent multiplication, to the destruction of the vital functions; that each disease has its specific germ, and that whether in Paris or Patagonia, Siberia or Scotland, the micrococcus of diphtheria grows in streptococcus membrane, the bacillus anthracis makes malignant pustule, the germs of typhus and relapsing fever form each their own disease. Everywhere each germ possesses its own characteristic form and mode of increase, grows always in its own kind of soil, cannot be cultivated in any other and may in some cases be subjected to great variations of temperature without loss of vitality.

Bacteria at first multiply with wonderful rapidity. Observation has shown that a bacterial generation can arise in the course of about an hour. Cohn determined that in twenty-four hours one bacterium would produce seven and one-half millions of its own kind. Like all living beings they can grow only at the expense of the food which they consume. What havoc myriads make in the congested soil of warm bottles is too often seen in cases of diphtheria, fatal in twenty-four hours, or cholera in even a shorter time.

As with the germ so with disease, and this one of diphtheria marks the analogy as closely as any. Its prevalence in all countries, its existence among all classes, its specificity, its introduction into a new place, even a different country through the medium of those affected, as it is known to have done from Roulogne in France, across the channel to Fiddesburgh and Dover, its being unaffected by climate or season, its affecting not every one but those, rich or poor, in whom it finds a soil, its greater virulence

in the earlier part of an epidemic, the parts of the interior atmosphere exposed to the air or abraded skin being especially liable to be affected, the rapidity of development in some cases, the long period of latency of the infection, the very positive influence of unsanitary conditions, characterize the disease as we know it, they are also traits of the bacteria as others have told them to us. "If from the deposit on the bottom of a vessel in which growth of germs is progressing, a trace of the ferment be taken for starting a fresh growth, there will be no difficulty in seeing that the first signs of action in each series appears always later and later in proportion to the length of time that has elapsed since the commencement of the original one. In other words the time necessary for the development of the germs varies with the state of the impregnating cells and is longer in proportion as the cells are further removed from the period of their formation." If cultures be repeated at intervals of months instead of days, their virulence is greatly altered; the former produces the disease with virulence, the latter with mildness. So in an epidemic of disease, the first cases succumb as if struck with death itself. Time softens the severity and then occur cases which result in recovery. Malaries abound chiefly in unsanitary conditions, and Michel has discovered that the curve representing their occurrence in the atmosphere coincides with the curve representing the prevalence of infectious diseases.

Again, it takes a longer or shorter time for the development of the spore in the system after infection, which is analogous with the preliminary stage of incubation. The febrile state corresponds with the full development of the bacteria, the period of convalescence with their gradual decline when their food is all exhausted. So closely do the life, growth habits, and death of microbes resemble the beginning, progress and decline of disease, so closely do they correspond (and the picture is no faded one), that many phenomena of disease can be explained in no other way than on the theory of transmitted germs.

The strongest opponent of the idea that air is the carrier of germs is Prof. H. Charlton Bastian, the advocate of spontaneous generation. The doctrine of *spontaneous generation* as we now came from the immortal William Harvey. Leeuwenhoek, a little later, with his rude microscopes, explicitly took the same position, and I think we may safely say that there are few who do not now accept the

opinion. But that the air contains germs and bodies, both organic and inorganic, is capable of very satisfactory demonstration. The microscope detects in the dust of rooms various excrementitious matter. On a day of bad weather, when the atmosphere had a sickly yellow glare, and the sun was fiery red as if of ominous portent, Dr. C. C. Godfrey of Bridgeport, by means of a microscopic slide covered with gelatine, determined that the cause of the phenomenon was a large dew, for the air was found to contain minute cinders caught by the gelatine. Prof. Darwin, during his five years' voyage in the Southern Hemisphere as naturalist to H. M. S. the *Beagle*, at an early period of the voyage, 1832, collected infusorial dust which fell on the ship when at sea, and he notes the suggestive fact that in similar dust collected on a vessel three hundred miles from land, he found particles of stone above the thousandth of an inch square, and remarks: "After this fact, one need not be surprised at the diffusion of the fat lighter and smaller spores of cryptogamic plants." John Burroughs, writing in his beautifully quaint way on "Nature in England,"* says: "The walls of the old castles of cathedrals support a variety of plant life. On Rochester Castle, I saw two or three species of large wild flowers growing one hundred feet from the ground, and tempting the timid or perilous reachings and climbings to get them. There seems to be a kind of haze and floating in the air. If the rains were not heavy enough to clean them off, I have no doubt that the roofs of all buildings in England would in a few years be covered with turf and that fungus and buttercups would bloom upon them." The constant appearance of minute forms of vegetable life could not take place so invariably were not the spores of the fungi continually present everywhere. Every good housewife furnishes a demonstration of the existence of germs in the air and the injurious results of their growth, when by boiling and careful filling of cans she destroys such sources of fermentation, and shuts out access of other air from the treasured sweets. It is not the air but the germs in the air which are the ferment, and Prof. Huxley argues that there is no mode of explaining this universal and invariable result, but the exclusion of germs from the cans.

The United States Navy is actively interested in the health of

* *Cosmos Magazine*, November, 1885, p. 120.

man, and looks for the best system of ventilating and purifying hospitals and ships. Analyses of air and water have been made at several naval stations, principally Washington. The air-dust collected upon slides and watch-glasses in various parts of Washington, contains* mineral dust, debris of vegetable fibres, fibres of cotton, wool, silk, linen, hemp, etc., scales and cuticulae of insects, particles of wax, starch grains, minute highly refracting dots, pollen grains of various kinds and certain organized forms, which appeared in almost every specimen examined, and were attributed to be micrococci. "Epithelium," Surgeon Kidder reports, "is always and everywhere present in the air." A form of pollen found is of special interest, in that it was observed to be present in great numbers in the nasal secretion of a case of catarrhus nostrarum in August last. It resembles the pollen of a grass and was first noticed in the air, August 18th. A site having been selected for a naval observatory at Washington, examinations were made to determine its sanitary condition. The water of a well upon the place was found to contain abundant bacteria, while the organisms usually found in potable water were absent. There was ground for suspicion of sewage contamination. Subsequent examinations showed gradual disappearance of bacteria until after about six weeks they were no longer found, showing that the impurity was not due to any permanent cause, but to some temporary and accidental source of contamination. The actual contamination was subsequently found in a cess-pool which having been cleaned out previous to the survey was found to be lined with unburnt brick so broken in places as to permit of leakage.

From what has been said it is evident that if disease is not produced by the invasion of the blood or viscera of the patient, by a parasitic vegetation, it is not the want of the germs from which such vegetation might spring.

Let us next consider what has been already ascertained from the effects of parasites or germs infesting plant and animal life. In the plant world there is a constant struggle for life between the plant and fungi. So it is between the microbes and the human body.

It is claimed that all diseases of plants are parasitic. The fact of the universal presence of cryptogamic spores is made manifest

*Bacteriary and Statistical Report of the Surgeon-General of the Navy for the year 1875. Government Printing Office, 1876, p. 46.

by the promptness with which fungoid growths spring up wherever a congenial temperature and the presence of some organic substance suitable as a nidus and furnishing proper food, are found. Peculiar forms of fungi appear on particular forms of vegetation and nowhere else. Among the most familiar of these are the diseases of grain in which the kernels become converted into masses of black powder, and which are popularly called smuts. The order of fungi to which the smuts belong, is Ustilaginaceæ. They indeed infest corn, wheat, rye, and oats. The *Uromyces cepulae* is the onion-smut which has caused great harm in our own State. Here also, we can carry out our former analogy, for the spores of many of these species germinate at once; others require a period of rest. That excellent vegetable, *Solanum tuberosum*, the common potato, affords the last example of the struggle between plant life and fungi. The principal insect enemies of the potato are the stalk-borer, the potato-stalk weevil, the potato-worm, the three-lined leaf beetle, the cutworm, the Colorado beetle, more than half a dozen species of blister beetles, and the Colorado beetle or potato bug of the present day. In 1842, and again in 1845, the potatoes cultivated in the United States, as well as in a great part of Europe, were attacked by a violent disease, which, in the course of a few hours, caused whole fields to become black and rotten. The general direction of the epidemic was from West to East. The source of the trouble was at length found to be a parasitic fungus known as the *Peronospora*.

It is from the study of parasites in animals that the germ-theory had its origin. In 1677, Leeuwenhoek discovered the spermatozoa. Bacteria of the various kinds were first recognized by him in 1684. In 1776, Jenner communicated to his teacher, John Hunter, his belief in the truth of cow-pox as a preventive of small-pox. Cuvier Davaine discovered the bacillus anthracis about the middle of the present century. Bassi, an Italian, found the muscardine of the silk-worm to be a fungus resembling mild. Pasteur directed his attention to the dark peppery spots, the pébrine spots, the skin of the silk-worm and ascertained them to be a parasitic fungus hereditary in nature. The prompt destruction of every infected silk-worm stamps out the contagion, and prevents any interference with the progress of the industry.

Plants and animals are infested with parasites. Coming up in our gradation of living things, we reach mankind and find this

paragon of animals, like Captain Gulliver in the land of the Lilliputs, tortured by minute objects of which he tries hard to rid himself. We need only mention the *Oidium Albicans* of Thrush, the *Sarcina ventriculi* found in matters thrown up from the stomach, the *Aspergillus glaucus* affecting the ear, hay asthma caused by pollen and other irritating substances floating in the air, the skin diseases of the Fyvie type of parasites, the *Acarus scabiei*, the *Trichina spiralis* and the various forms of Tinea infesting the intestinal canal. Why should we not go a step further, when reason and analogy lead thither, and all scientific investigation, which is the test demanded in our day, gives token that in this way lies truth.

I do not need to give the results of the labors of Pasteur and Koch, of Eberth, Gertel, Cohnheim, Gessly, Sternberg, and Welch. I believe that germs have been proven to be the origin of some diseases more incontestably than many scientific facts now generally accepted as indisputable, have been proven. Not more surely do we know our solar system to be but one of many systems revolving around one central sun, not more certainly do we know the elements which compose the stars to be the same as the components of our earth, not more clearly do we see that the lines in the rocks were carved by the boulders of the glacial epoch, or that the valley of the Mississippi was once a vast inland sea, than that some of our infectious diseases are sown by minute germs. The testimony of the rocks is not more clear to us than the testimony of the air. It is well to question, that argument and proof may be made clearer or fully controverted. Under date of August last Prof. Welch writes to me, "I am myself a believer on rational grounds in the germ theory of infectious diseases, but believe that the theory has been demonstrated only for a few diseases, the best known examples being anthrax and tuberculosis, to which may possibly be added relapsing fever. I think that the bacillar origin of infectious has been proven more satisfactorily than most of the doctrines in medicine. The bacillus I find in the system in all cases of phthisis and under no other circumstances. Its recognition is sometimes a valuable aid in diagnosis. I have recently found the bacillus in pus from a white swelling of the knee-joint which had never been opened before the withdrawal of the pus, proving that the joint affection was tuberculous."

The war now wages on the subject of the bacillus tuberculosis,

and Prof. Forland seems to be the only defender of its non-infectiousness. In his published articles, however, are some statements to which I beg leave to take exception. "Tuberculosis is an inflammatory process within itself. It is the natural and only kind of inflammation a scrofulous being can have. The evidence of those who have had a large experience with consumptive patients, is in perfect opposition to the infective theory of phthisis. This, I think, is of more importance than experiments in the lower animals. The alleged fact that occasionally the healthy wife of a consumptive husband acquires phthisis (or the reverse) after prolonged cohabitation, can reasonably be explained by the presumption of an acquired scrofulousness from physical efforts, misery of life, loss of sleep," etc., etc. But from Dr. Forland's own city, Philadelphia, we have testimony somewhat conflicting with his. The *American Journal of Medical Sciences*,* of April and July, 1878, contains two articles by Drs. W. H. Welch and E. Holden, on the subject, "Can Phthisis be communicated?" Galen, Cullen, Hahnemann, Morgagni, Laennec, Andral, Bright, Addison, Copland, Drake, Dickens, Esch, Walke, Beale, Bowditch, Flint, Stillé, DuCane, and others, are asserted to have expressed an affirmative opinion. Dr. Holden obtained, in answers to circulars of inquiry, two hundred and fifty replies from leading physicians in various parts of the United States. Of these, one hundred and twenty-six affirmed their belief in the communicability of consumption, seventy-four gave a negative answer, and fifty were in doubt upon the subject. These data, derived four years before the presence of the bacillus was known have the merit of being unprejudiced by any opinion connected with the result of that discovery. Reports from our own State are of kindred significance. The Secretary of the Board of Health of Connecticut, on page 75 of his third annual report, states that only 25 per cent. of cases of consumption are due to hereditary tendencies; the rest are caused by miasmatic influences, the chief being breathing impure air, and especially re-breathing that devitalized by our own or another person's lungs. This is shown by the greater prevalence of consumption among men when they work indoors, and women out of doors, and the reverse, by the statistics of prison life, and the phlegm analyses and series of the world. An important element in its causation is cold, moisture, and damp ill-

* *Am. Jour. Med. Sciences*, April, 1878, p. 188, and July, 1878, p. 110.

drained sites for lesions have caused many needless deaths. Certain lesions invariably induce consumption in any families that live long enough in them."

The only two midwives practicing at Nuremberg, a healthy town of 1,380 inhabitants, in 1875, were B. and S. Of these, the woman S. was undoubtedly the subject of phthisis, with abundant puriform expectoration. In the first case described, Dr. Reich extracted the child by turning. While his attention was engaged with the mother, he noticed that, owing to some difficulty in the child's breathing, the nurse sucked the mucus from the infant's mouth, and also endeavored to promote respiration by blowing into its mouth. For the first three weeks the child progressed well, but then its health failed and within three months of its birth it died of well-marked tubercular meningitis, initiated by symptoms of bronchial catarrh. In May and June following two more children died of the same disease. These three cases had been attended by the nurse S. Dr. Reich's attention being thus attracted, he formed, on investigation, that between the 1st of April, 1875, and the 10th of May, 1876, seven children, in addition to the above three, had died (all within the first year) of tubercular meningitis, although in no case was there any history of hereditary tuberculosis, that all these cases had been attended by the woman S., while of all the cases attended by the other midwife, B., not one had died of this disease, nor had any manifested in any way indications of any tubercular form of disease. The duration of the illness varied from eight days to three weeks; whereas of the ninety-two children who died in their first year during the nine years from 1866 to 1874, only two died of tubercular meningitis; and similarly among the twelve infants who died in 1877, there was only one such case, and its parents were tuberculous. The midwife S. too, had died of phthisis in July, 1876. It was ascertained that S. had been frequently in the habit of sucking mucus from the mouths of infants and also of blowing and crossing them." Should this statement seem to be too one-sided, or that it is untrue, I have only to say that it is reported by Dr. Reich in *Deutscher Klinische Wochenschrift*, Sept. 18, 1875, and is quoted by Dr. Hughes Bennett in Reynolds's *System of Medicine*, Am. ed., vol. II, p. 117. Of damp atmosphere as a cause, it may be noticed that phthisis is common in Holland and other countries liable to damp fogs and an atmosphere saturated with moisture. It has been shown to

prevail in the damp soils of the United States by the careful investigations of Dr. Bowditch of Boston, and of England by those of Dr. Barltun. In the Seventh Annual Report of the Registrar-General of Scotland, it appears that for every 100,000 inhabitants there died annually from consumption 295 persons in Leith, 298 in Edinburgh, 310 in Perth, 332 in Aberdeen, 348 in Dundee, 353 in Paisley, 359 in Glasgow, and 403 in Greenock. In these towns, therefore, the death-rate is diminished in proportion to the dryness of the site.*

Against that part of Professor Forquard's statement, *no tubercle without inflammation*, I give the statement of Professor Henry Hartschorn, also of the University of Pennsylvania: "Is tubercle always inflammatory in origin? Notwithstanding the high authority of those who have urged that it is invariably so, the facts appear to warrant the maintenance of Laennec's doctrine upon this point, to the effect that tubercle may be deposited as a local result of a constitutional fault without inflammation preceding it. Litten of Berlin, in some recent elaborate investigations of acute interstitialis, has sustained what may be believed to be a true proposition, *viz.*: that tubercles may develop extensively in the membranes of the brain without exudation." Professor Welch says, too, inflammation is the usual accompaniment of milary tubercle; in fact, perhaps, the best conception of milary tubercle is to regard it as a small focus of inflammation. The bacillus may cause diffuse inflammatory processes as well as the tubercle nodule. It is, however, true that milary tubercles may be formed in an otherwise unaltered tissue, but this is exceptional.

When Professor Forquard says that scrofulosis is a condition which may arise from malnutrition and seclusion in any being, and thus may be produced artificially, he differs in no respect from the statements of other observers. But when he states that "the presence of bacilli (so far as our present research goes) is secondary and appears to condition the complete destruction of the tissue already diseased and infested by them," he places himself in a position to be strongly criticized. If others stood with him, we might be more ready to believe it so, but when the researches of one man, though he be skillful, are opposite in results to the ablest men of different nations and of all sciences, who, backed by their governments, have spent years of such study as only those can who

have royal purple-strings to pull, we must question the accuracy of Professor Formal's results. It is not, however, the presence of bacilli which is desired, it is the question of cause. * We have a right to consider mere organisms the cause of disease when they fulfill the following conditions: 1. When they constantly occur in the particular disease they are said to produce and are present at the very commencement of the disease. 2. When they can be separated from the diseased part and can be obtained pure and isolated, and when the introduction of these pure organisms, if possible in the same species of animal from which they were originally derived, produces the same disease. The bacilli tuberculosus answer to all these requirements. They are found in the sputum of phthisical patients, and in phthisical patients only; in the secretion of the lungs in laryngeal and pharyngeal phthisis; in the expired air of phthisical patients; in the faeces of persons suffering from tubercular enteritis; in the pus in cases of fæula in also occurring in phthisical patients; in the urine when there is tuberculosis of the urinary tract; in the nasal cavity of children suffering from tubercular meningitis; in the discharge from the ear in scrofulous ear disease; and they can be detected in the earliest stages of miliary tuberculosis. On the other hand, they have been found in old and healed tubercles. They are found in scrofulous joints and in the pus from such joints. They have been cultivated and successfully inoculated in various kinds of animals. The old teaching that tubercle is hereditary still stands in the way of our belief in its infectiousness. But a disease which is hereditary may also be infectious, as syphilis. Hereditary tubercle is never congenital, nor do all born of tuberculous parents develop the disease.

The tubercle bacilli are inhaled and find a suitable soil in the lungs. They will naturally settle where the air-current is weakest, and where the movements are less extensive, that is, the apex of the lung. Here they produce a local inflammation and slow destruction of tissue. This will break eventually into a bronchus and be aspirated into another bronchus lower down, making a second focus, and so on. This readily explains the extension of the disease in the slowly-advancing cases of phthisis, or the lung may be

* "Micro-organisms in their Relations to Disease." Read before the British Medical Association by JAMES DUNSTON, M.D., F. R. C. S. Lect. on Pathology in the Queen's College, Victoria University.

in a state particularly prone to the development of the bacilli, such as in acute haemato-pneumonia following the infectious diseases, when many points will be simultaneously attacked and we get acute caecous haemato-pneumonia. The bacilli being near the lymphatics of the lung, easily get into these and travel along them to the lymphatic glands at the root of the lung; and the frequency with which we have lymphatics and the glands affected with tubercle is a fact long ago established and known, long before the detection of Koch's bacilli. When once the tuberculous masses break into the bronchi, the sputum will contain bacilli; and this, when swallowed, affects the intestinal tract. We would expect to find the lesions chiefly where the intestinal contents are not very compact and the movements are slow: chiefly, therefore, in the caecum and lower part of small intestine. The digestive tract itself, however, may form the portal through which the bacilli enter primarily; and here, if we think of milk we should expect the mesenteric glands to be the chief recipients, so it is in tubercularis. When once in the lungs or in the mesenteric glands, the tubercle bacilli become generalised either through the blood-vessels or through the lymphatics. This usually takes place. Weight found that, in several cases, when general tuberculosis supervened upon a local tubercular process, the pulmonary was contained small masses of tubercles with bacilli.

The germ theory resolves easy an explanation of the origin of many diseases which were before difficult, if not impossible, to explain. It best explains the prevalence of malaria in this State.* It is the only theory which has explained rationally the various phenomena of infectious diseases, whether epidemic or isolated, acute or chronic, in child or adult. The theory of humors has failed to stand the test of time. Miasm is an undefined term, contagion is a condition over which worthy wars have waged without definite result.

Nowhere in this country is more careful attention paid to the health of men than in our navy. Men physically perfect are selected for its service: they are kept able-bodied that they may endure the storms of sea and the storms of war. In the Annual Reports of the Surgeon General may be found for any careful reader facts sufficient to convince a skeptic of the truth of the

* See article "Malaria in Connecticut," by Dr. C. W. Chamberlain, in Fourth Annual Report Comm. Board of Health, pp. 324-333.

germ theory. Sanitary laws put thoroughly into execution show that disease may be prevented; the superfluities of these cautions call down the penalty. At the Sailors' Home in Philadelphia, where those who have sailed over many seas through many storms, find quiet haven and rest, the average age of those who slip the cable and are gone is sixty-six years two months. The testimony of Navy Surgeons who have to do with sanitation on board vessels where abundance of air is requisite, is in harmony with the principles we have already noticed. Says "B. Fox," aqueous vapor possesses a powerful affinity for organic matter and serves both to preserve and diffuse it. An excess of aqueous vapor has not only a depressing effect upon the nervous system, but it interferes with the pulmonary and cutaneous exhalations. "It is one of the most frequent causes of the derangement of health."—Pringle. Pottsmagrin, the authority on naval hygiene—"a damp ship is an unhealthy ship." Sir Alexander Armstrong, the head of the medical department of the English Navy,—"There can be no more fertile source of disease among sailors, or indeed other persons, than the constant inhalation of a moist atmosphere, whether sleeping or waking. Amidst the diseases induced and aggravated by excessive humidity, centrally stand those of the pulmonary organs, with phthisis and other wasting diseases of these tissues and around these scurvy, rheumatism and its associated cardiac troubles, abscesses, felons, boils and diseases of the subcutaneous cellular system, are grouped. Statistics confirm these statements. It is of importance to remember that the crews of vessels of war are examined as to their physical qualifications, and that the sick and death rates represent such rates of chosen and picked men."

The germ theory is then the most rational of all the theories of disease. Whether it is universally true or not, it is the best one to work by and promises the richest rewards for honest investigations. Even Forssd, its strongest opponent in this country, admits that the bacillus tuberculosus appears to condition the complete destruction of the tissue already diseased and infected by them, and that this destruction is in direct proportion to the quantity of the organisms, which thus regulate the progress.

What follows? What preventive means have we? How can we render the germs innocuous? Prof. Lassar has had wonderful

results in his system of antiseptic surgery. But Mr. Keck, without the use of any spray, has obtained as good results, and it is in the domain of abdominal surgery that the greatest triumphs have been obtained. It must be remembered, however, when comparing these results, that cleanliness is a great antiseptic.

Keck has made exact researches with the view of determining the effect of very small doses of different antiseptics on anthrax spores. Dr. Sternberg, U. S. A., has done the same thing, and Dr. Henry O. Mancy of Boston read before the Section on Surgery and Anatomy of the American Medical Association, 1883, a series of experiments with twenty-five different germicides, one hundred and seventy different tests, with very satisfactory results.*

The strict observance of sanitary laws is probably the best preventive of disease. Hippocrates, whose life in the golden days of Athens brought him in contact with men whose attainments in the arts, in philosophy, civilization, statesmanship, in poetry, history, and the art of war, teach the best minds of to-day, who talked and walked with Plato and Socrates, who saw Pericles cut the frieze of the Parthenon, who perchance helped Pericles frame the laws of the State, and learned the history of all known lands from Herodotus and Thucydides, formulated the principles of sanitary science, "Pure air, pure water, and a pure soil." For more than two thousand years these laws have remained unchanged and strong as many have they remained unenforced. "So long as society, in its highest development of rank and culture, ignorantly pothes and wedges itself in crowded parlors and drawing-rooms, already defiled by blazing gas-jets and defective furnaces, where hundreds of lavishly dressed human machines baffle the air and poison one another with the noxious gases and their own effete animal products in double quantity than the ragged rabble which bend in the open street, and call this pleasure; so long as giddy people drive and yawn in badly ventilated churches, overcharging their brains and impairing their minds with blood not half aerated, and ungodly crows exhaust their whole reserve force to resist the miasmatic influence of the no less badly ventilated theatre and exhibition hall, and call the one pious worship and the other rational amusement, so long as men toil to amuse riches and then build residence palatial or sham palatial, and in the name of luxury and noblesse flood them with artificial light and heat to

* *Journal Am. Med. Assoc.*, Aug. 26, 1883, pp. 775-381.

consume the oxygen which prince and beggar must breathe, and admit the invisible filth by the sumptuously decorated closet and bathroom by which they think to exclude the vile necessities of humanity which prince and beggar alike cannot escape, and call this comfort and refinement; so long as our children are sent to overcrowded and unwholesome schools, where their eyes are bleared, their hearing dulled, their plastic bodies distorted, and their brains fouled, and call this education; so long as men and women violate daily in themselves and in their children the simplest precepts of hygiene, parents countenancing half-dressed daughters wearing out their strength in unwholesome ballrooms, seeking their slumber that cannot refresh only when dawn appears; men launched upon the world to encounter physical wreck in a thousand channels where so beacon warns of danger; old men, senators, judges, divines, perchance learned doctors, unconsciously breathing the foul air of public conveyances and apartments in which every door and window has been carefully closed and ventilation carelessly ignored; streets reeking with filth which *desecrated* laborers play the farce of sweeping in broad daylight; what can State Medicine hope to accomplish in legislative chambers and halls of Congress which are themselves *eyes*, evidences of sanitary ignorance, sanitary neglect, and sanitary indifference?"*

One other resource completes a trio of preventive means and to it I am persuaded must we chiefly look. Just as the most efficient enemies of the potato-bug are found among parasites of its own class, just as from change in nutrition, temperature, and other conditions germs can be changed from malignant to harmless, just as Pasteur has saved to his country millions of francs in six years by vaccinations with charcoal, just as in smallpox we protect by vaccination, so may we learn some protection from infectious diseases which yearly count their victims by thousands.

The subject has grown upon my hands and would tempt me further did I think your patience would allow. If I may have succeeded in giving a new thought to any student of the causes of disease; if I have aroused any indifferent one to such desire; if indeed I can hope to have added any value to this gathering here to-day, I shall feel that my labor has not been in vain.

Barnstport, May 25, 1884.

* Address upon State Medicine before American Medical Association at St. Paul, by Dr. CARR, Medical Director, U. S. N.

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ESSAY.

SUMMER HEALTH RESORTS.

By SAMUEL D. GUARD, M.D. NEW HAVEN.

We have already reached the season of the year when at social gatherings and as friend meets friend the question will often be asked, "Where are you going this summer?" To the mountains, or to the seashore? Are you going to Saratoga to drink hot mineral water before breakfast, or are you going to remain at home and faithfully parcel your stomach with hot pure water?"

As physicians, we of all men may expect to frequently hear the inquiry, "Where shall I go?" and our patients will naturally and rightfully expect that we should be able to give them sound advice on this subject.

The first idea in going away for the summer is to go, go any where so that one may have a change. If the home is in the hills of Litchfield County, go to the seashore, if on the coast, go to the hills, or at all events back into the interior. The novice in this summer begins thinks that he can transplant his family into any place where they will have change of air and scene, and that they will there bloom like the roses of June, and will store up strength of muscle and nerve for the next winter, but after the experience of one or two seasons, he will take care to provide his loved ones with medicines, of which cholera mixture is one, before they start, knowing that they will probably need them before they return. Sad it is, and yet it is true that although the Almighty has made pure and health-giving breezes to blow upon every hill top, yet man has done much to destroy their effect.

The subject of proper drainage and general sanitary laws are very little understood by the average hotel and boarding-house keeper, and where some slight knowledge exists very little use is made of it.

I invite your attention to "some thoughts concerning the selection of a summer or a health resort for the families and patients under our charge."

Firstly. All places of resort should be sanitarily safe.

Of how many is this the case? The great majority of the proprietors of hotels, situated far from cities, and resorted to in the summer, are men who either are so blinded by the glitter of the dollar, that they are rendered thoughtless as to their own interest, or through ignorance pay little or no attention to the sanitary condition of their establishments or grounds.

This has been true and probably still is true of some of the finest localities in the country. Take for example the Profile House in the White Mountains. Only a few years since the proprietor of this famous hostelry was warned by an able physician who inspected his house, that unless he made a radical change in the drainage, an outbreak of typhoid fever might be expected, but the landlord made light of it, and it was only after this actually occurred during the subsequent year, and there were a number of cases of typhoid, some ending fatally, that he was brought to his senses.

The hotel was then closed, the profits of a season lost, and at an expense of several thousand dollars the house was put in good condition. Soon after this, I was told by the leading physician of Littleton, New Hampshire, that only one of the many boarding-houses and hotels in Bethleheem was sanitarily safe.

There was here no excuse for such a state of affairs, as pure water could easily, and at small expense, have been brought from living springs in the adjacent hill sides, in quantities sufficient for all drinking and household purposes. Those who seek the cool and bracing air of the mountains naturally expect to find there, if anywhere, pure air and water.

But what is the actual fact. Unless they camp in the wilderness (and even then there is slight danger unless the location of the camp is new), in many cases, instead of pure mountain air, they inhale much of the time the sick fumes of the pigsty, and the odors of a filthy barn-yard. Instead of pure spring water they drink water contaminated by the same or similar causes.

Not long since I heard of an investigation which was made of the water supply of one of these hotels, advertised to be "supplied from a spring of pure water in the mountain side, etc." A gentleman of an inquiring turn of mind, having noticed that the

water tasted (to speak mildly) very peculiarly, followed up the pipe which led to the house from this presumably beautiful rock bound spring, and found that the water came from a muddy pool in which several cows were placidly standing, and the pool was evidently the usual drinking and cooling place of these animals.

During the last summer, I spent three weeks in one of the most beautiful localities of the Adirondack Mountains, a lovely valley, "where every prospect pleases and only man is vile," as regards the sanitary state at all events. There were several large boarding-houses or hotels here. The place has been a resort for Connecticut people during the past eleven years. In the course of conversation with a gentleman, a very intelligent editor and litterateur, he said that there was one curious circumstance, viz.: That during every one of the eleven years there had been an outbreak of diarrhea in the house at which we were then staying, and he added, "You just watch and you will find that every one sooner or later will have bowel trouble." This prediction was substantially fulfilled. On examining the source of water supply, I found it to be a well situated ten feet in the rear of the house. This well was about seventy-five feet from the barn-yard and water-closets.

The latter were in a filthy condition. Upon the ground around and immediately surrounding the well were thrown the dish-water, water used in ablution, etc. In fact all the help employed about the hotel washed by the side of this well. All this unclean liquid ran almost directly into it. One day, while taking a walk at a point perhaps a sixteenth of a mile back of the house, I crossed a brook of what looked like pure water. On tasting this, however, I was horrified to find it strongly impregnated with cow manure. Now consider the surroundings of this hotel, "one of the most popular and aristocratic houses in the whole Adirondack region," as it is called in the guide-book, and certainly frequented by some of the finest people in the State, where seventy-five people were sojourning for their health and summer outings, with danger to life—and to this, peril from poisoned water was added, the discomfort and ill-effects of poor food, not merely of poor quality, and poorly cooked, but in some instances, the meat was absolutely bad; and yet this is a house thus described in an offering guide-book, "Shepherd's Adirondacks Illustrated." After speaking of "the scrupulous mistress (?) which provides the details in and about the house,"

the author goes on to say, "The table is also all that can be desired, the ample bill of fare showing a careful study of the healthful requirements of the average eater, and displaying a plentiful sprinkling of dishes usually found only at first-class city hotels, with the purest and strictest of country fare." Another house, accommodating a larger number near by, is situated very near an immense barn-yard, which emitted a most horrible stench, and of which the house had the benefit when the wind was from that quarter.

During a conversation which I had with a doctor who practiced throughout this region, he said that dysentery and typhoid fever was prevalent in this section and always would be prevalent, as long as the natives were so ignorant and careless in sanitary matters, and that he was satisfied that impure water, and the masses of filth which were constantly soaking into the ground were the cause of the trouble. All sanitarians would agree with him.

These are not exaggerations or misrepresentations. Mr. President and gentlemen, but are facts, and it is in such places for which nature has done so much, but man so much to destroy, that you are unwittingly sending your patients every year. Now, if *course* there are well-kept houses where sanitary laws are observed, but is it not true that about many, and a great many of the so-called summer resort boarding-houses and hotels there will be found nuisances? Where the members of the medical profession have an opportunity of inspecting such places, it is *unquestionably* their duty to do so, and to point out to the proprietors (who, in many cases, will be glad to be instructed) the evils, and how they can be remedied. In this way we shall be doing the public a favor, and shall be enabled to direct our patients where they may safely go. Of course sickness will occur under the best of surroundings, but to aid our patients to gain the health, vigor, and recreation which they seek, when our advice is asked we should send them to places of which we have a good report, so that as far as possible, we may protect them against illness which, if it comes, will take them away from home comforts and their family doctor, and leave all the way open to successfully contend with it. Moreover, this subject of the need of reform in the sanitary condition of public resorts should be by no means, the public should be informed that there is need of reform, and we should shed light upon the subject whenever and wherever we have an opportunity to do so. Having

shows that some places which are frequented with every recurring summer, are not uniformly safe. I think you will all agree with me that they should be.

Secondly. Those localities should be selected which will give the most decided change of air and scene from those which form the home environment.

How often we hear the advice given, "you need a change," and although it is sometimes abused, and there are exceptions to all rules, still in the main a change is what is needed. This is too well known to need argument. How often have we seen the tired business man, tired of his shop or counting-house, or the mother worn with the ceaseless rounds (being though they be) of maternal and household cares, come back from a sojourn in the mountains, or by the sea, with the furrows of care smoothed from the brow, the blood coursing with fresh vigor in the veins, and an elasticity of step, and a resolute bearing such as can be gained in no other way. And this result is born not of the rest alone, but of the new pleasures and experiences which have been had, the new places which have been seen, and above all, because they have been lifted out of the rut which their lives have worn; and for a time their feet have trodden new pastures.

If you wish an inland climate, and one in a great measure free from malaria, send your patient to Saratoga, where he may find a remarkably dry and balmy air, and where the physicians say malaria does not exist, and where certainly I have yet to know of a well authenticated case of indigenous chills and fever. Then aside from the air of Saratoga, the mineral spring waters in which it abounds are certainly most valuable in derangements of the liver, sluggishness of the bowels, and as a general tonic to the system. Indeed very many and perhaps the majority of physicians would make the mineral waters the chief object in visiting Saratoga. Still, although I appreciate their therapeutic effects most highly, and the value of the regular habits which those who drink the waters practice, yet I do think that one of the chief charms of this noted watering place is that in a few hours we may by sending our patients there, place them where they will not have to contend with malarial influences. This is a blessing for which we cannot be sufficiently thankful. Of course the time may come when this immunity will not be longer enjoyed there, but practically there is

the malaria in Saratoga, although there are occasional cures of its hovering on the outskirts of the village.

Of the White and Green Mountain region I need say nothing. The advantages of these regions are well understood, and they are so much frequented, and so much has been written about them as health resorts, that further comment is unnecessary. Let me say, however, in passing, that "hay fever" subjects do not enjoy the immunity from their annual attack which they once experienced in Bethlehem, the noted resort for those afflicted with this malady. At one time very few suffered from the disease while remaining in this village, but for the last few years there does not seem to be the same relief. The town authorities some years since became so filled with the rag-weed theory, that a committee was appointed by the town to scour the fields and meadows, and root up and burn the offending plant, and this was done. I presume that this class of invalids would do better at Crawford's, or the Profile, where there is less dust.

The interior and northern part of Maine is becoming with every recurring summer season more popular, and deservedly so, as a resort for the health-seeker. The advantages of canoeing on the lakes and rivers amid the pine forests, as a general tonic are great. Unassuming with fair muscular strength, are much benefited by the sort of deer life which camping and canoeing amid the balsamic odor of the pines afford. The northern part of Maine has more of the character of a genuine wilderness than any part of the New England or Middle States, where none may still be found, and where deer roams in good numbers. Here are some good hotels for those who do not wish a mere out of door life.

The region of the upper and lower Connecticut lakes forming the headwaters of the Connecticut, just on the line between northern New Hampshire and Maine, is one giving exceptional advantages to the health-seeker and sportsman, and one which until very recently has hardly been visited.

Those who live in the interior of the State are often most benefited by the sea air, and above all ocean air, not mixed air, although that is well, and even those who live near the sea coast, as in New Haven for instance, will reap great benefit from the ocean-side. Block Island is a fine place to breathe briny air, pure and unadulterated, and is very helpful to many. It is still quite free from conventionalities, too, which makes it to many all the

lakes attractive. As far as my own experience goes, however, authorities should give it a wide berth. But if sea air is wanted, we all can gain access easily to the whole New England coast, which abounds in fine scenery from the Maine coast, Mount Desert, Old Orchard Beach, and Cape Ann, down to Newport, and Narragansett. The region of Cape May, and Atlantic City, is little cultivated by Connecticut people, but is well worthy of a visit, and Atlantic City offers a mild winter resort where some cases of phthisis do extremely well. I might mention many other places, distant, as well as near, for such is the rapidity with which clean stimulates space, that no climate or region which our country affords is too far for a summer tour, or too distant if health may be enhanced by reaching it. I have purposely confined myself, however, to resorts in our own vicinity.

There is one section of New York State of which much has been said during the past fifteen years, and to which more people are turning every year, which merits more than a passing notice, and of which I wish to speak in conclusion—The Adirondack region. Here is a tract of 8,000 square miles, diversified into mountains and forests, being for the most part a wilderness, the central portion of which is a grand plateau having an average height of about 1,900 feet. Nearly every part of this section can be reached from New York in twenty-four hours.

Location of this seariness to the great business center its value as a breathing-place and summer resort can be appreciated. Here every kind of pastime, such as mountain-climbing, boating, fishing, and hunting, can be enjoyed. Stationary camps are built on many of the lakes where parties of ladies and gentlemen live for weeks and even months, and thus get all the benefit of our door life and may still have many of the comforts of civilization. It is this which gives to many the charm of the Adirondacks. For those who do not wish to camp there are boarding-houses and hotels, many of which are well kept as far as cleanliness and regard to sanitary laws are concerned, and in which one can get enough to eat, always remembering that it is hard to get good fresh meat and vegetables where everything except rare potatoes and field corn has to be brought by team from twenty-five to fifty miles. It is true that there are connected with some few hotels gardens, but as few vegetables will grow at that altitude that the supply from this source is not worth mentioning. I speak of these facts in regard to food, for

there are people with delicate constitutions who should not go to the Adirondacks, because they need a better and greater variety of diet than can usually be obtained there. Still in some cases the bracing air may compensate for this.

Generally speaking the whole Adirondack region is free from any prevailing indigenous disease. Yix-capped fever and chills do occur in Keene Valley, and I have been informed that according to the report of the State Laboratories there are more deaths from phthisis in proportion to the population of Essex County, in which Lake Placid is situated, than in any other county of the State.

There are many delicate persons who are sent annually to this region who are unable to bear well the hard wagon journey over the rough roads, and arrive at their journey's end aching from head to foot and completely worn out, and unless they have come to the right hotel, their comfort is further impaired by their inability to digest the food set before them.

I wish to say a few words of the Adirondacks as a resort for consumptives. Ever since Dr. Leomin began to send his patients there, and an article appeared in *Harper's Magazine* some few years since, written in very glowing colors by a consumptive who lived through the winter in a tent near Paul Smith's, there has been a great rush of this class of invalids there.

The author of the article referred to did well with an outdoor life, but he died the following year. There is no question, however, but that a residence of even several months will in many cases check the progress of the disease, and that strength and flesh do return, and that the cough grows less, and in some cases ceases. It is true also that by remaining there many live several years longer than they would at home, and may possibly recover.

There are a certain class of patients who should never be sent to the Adirondacks—those in the last stages of consumption, for they generally go there to die away from home and friends, but all others, if they can stand the journey, and the digestion is fairly good, may improve. Those do best who in the summer live entirely in tents. Most of the hotels at Lake Placid, the Saranac, or St. Regis lakes will furnish them to any who wish them, so that they may sleep and live in tents and yet have access to all the varied bill of fare which the hotel affords. Consumptives should be sent to the plateau region because the mean altitude is greater

there and in consequence the air is drier. Many are sent to Lake Placid, which is 2,000 feet above the level of the sea, but high winds prevail there, and I would not recommend it, but would prefer the Long Lake, Saranac, or St. Regis Lake region for them, though not affording such a height, still are from 1,550 feet to 1,700 feet above the sea and more sheltered from high winds. Above all, where ever you send your patients, give them to understand that they cannot get well by sitting in hotel verandas, and that they must live day and night in the open air. An abundance of warm clothing should be taken so that even when the mercury is at 45° they can sit out of doors wrapped in blankets and be warm.

As to winter residence I do not know that I can speak very encouragingly. It is a sad existence. It is living—true—but of all the poor homewick sufferers I ever saw, those were the most sad who contemplated spending the winter snowed up in the village of Saranac, thirty-six miles from the nearest railroad station. Quite a little colony of consumptives gather here every winter, and remain till spring, when the members separate and spend the summer at the different hotels on the St. Regis, Saranac, Lake Placid, and other lakes. I have seen ladies who have remained in the Adirondacks two or three years in this way, but as I have said, it is a sorry existence, and requires great pluck and courage. Still those who have these necessary qualities do well. I suppose that many who go from here might do equally well during the summer in the northern towns of Litchfield County, provided they would live there as they think they must in the Adirondacks, viz.: Out of doors.

ESSAY.

IDENTITY OF CROUP AND DIPHTHERIA.

By LEWIS BALDWIN, M.D., (Oxonian.)

Mr. President and Gentlemen:

In selecting a theme for your consideration, I am impressed with the fact, that the laity formerly demanded of the regular profession, harmonious views on all points touching their physiological or pathological condition, arrogating to themselves alone the right to differ in all things, even in that which was fixed, unalterable, and certain.

There has been a popular and abiding faith in medical conclusions,—a faith that seemed to spring from a belief that we all held the same standpoint of observation, and were possessed of minds with fixed avenues of thought and reasoning, by which, sooner or later, we must necessarily attain to the same ideas. Whence the query arose, "When doctors disagree who shall decide?" bearing in itself the implication that we ought to be agreed.

Mankind believed in us, as those who could unfold the mysteries of bodily health, disease, and death. Delighting in mysteries, they believed in us, because we dealt with the mysterious. Now life is less a mystery—even death, which is still a mystery, helps reveal the hidden phases of our being. Now, principles and practice, which are daily strengthened, enable us to deal less with the obscure. But the more we reveal man to himself, cleared of life's mysteries, the more he seems to withdraw his confidence in us, and relegate himself to the charms of quackery. Even but a few days since, an eminent orator of this State, before a committee of his peers in our legislative halls, denounced the practice of medicine as "nothing but scientific guessing." It is a satisfaction however, to know that when he said it, he was only "acting a part" as the hiring of quackery, and that his punishment is sure, for death is still certain.

I have indulged in these preface remarks on faith in the profession, and been guided in the choice of a theme, by a recent criticism of the regular profession, viz.: "That if the public continued to repose confidence in us, they had a right to demand that we should be reasonably agreed in the etiology, and a unit in the nomenclature of disease." A remark which was evoked by our disparity of reasoning on the query, "*Are croup and diphtheria synonymous?*"

Thirty-five years ago, "*ulc irritatio ibi inflammatio*" was duly impressed upon the youthful aspirants for medical honors, by Knight, Parlor, Platt, Hamilton, and their condisciples, and we listened to the termination "*itis*" from Stomatitis to Rectitis, and thus, in a well-digested and remembered way, we studied it in all of its varieties and localities; but the term diphtheritis was not introduced, and then only in a manner that served of little, though (to his honor be it to say) one of the professors was dubbed "*Entero Diphtherite*," from his common use of the terms, "*entero-enteritis*," and "*entero-diphtherite*."

In 1846, Pharyngo, Laryngo, Tracheitis, or "*Angina Putrescens*," was the name given a very fatal and malignant disease, as it existed in Southington, by the late Dr. Eli Ives, one of Yale's deservedly noted professors.

In 1848, as a medical student in Wood's Practice, I was told that the disease there described as diphtheritis was the same as had occurred in 1846 under Dr. Ives's observation.

In 1855, or thereabouts, public attention was called by the press to a fatally malignant epidemic existing in Orange, as something new and unheard of. One diagnosed the disease as "*angina maligna*," another "*scarlatina sine eruptio*," a third called it "*malignant croup*," but Dr. Jonathan Knight, whose judgment soon questioned, said it was the "*diphtherite*" of Broussais, Guersin, and other French writers, and was the first one in the State to publicly announce Diphtheria, now a household term, for the name of a too frequent and much dreaded disease.

The Greek term "*cyanche*," and the Latin "*angina*," were generic terms, and well and sufficiently expressed the source and suffocative infamations of the throat, until the introduction of the Scotch-Saxon term "*croup*," which has prevailed in English parlance for nearly two centuries, and which, by its history, was associated with whooping-cough, in 1713, as it is with diphtheria today. Oertel speaks of diphtheria as of Egyptian origin, the

"*Malum Aegyptiacum*," suggestive as "the plague which smote the first-born;" but it is probable that the term was first applied by pathologists about the beginning of the present century, to acute epiglottic membranous disease of the throat, and was brought more particularly to the notice of the profession in 1821, by Bretonneau, who endeavored to show the identity of the disease with croup, claiming that the nature of the inflammation, and the membranous exudation of either, were identical.

Many eminent pathologists, among whom are Billiet, Bartholin, and Hirschfeld, support their identity. Many equally eminent, as Virchow, Niemeyer, Oppolzer, and, in this country, Forstner, Barker, Flint, Wood, and others oppose it; again, Dr. Meigs of Philadelphia, who has had much to say of the treatment, favors the unification.

Croup is defined as a catarrhal or follicular inflammation, attended with a sero-purulent exudation, or an albuminous lymph deposited in points as minute as the excretory orifices of the mucous follicles themselves, coalescing in patches, or forming a continuous lining of the air passages, by means of a union with fibrin derived from the liquor sanguinis in the process of the inflammation. Wm. Squire of London, says, that the false membrane of croup differs from that of diphtheria, chemically and physiologically; it is not simply fibrine, but consists of effused lymph in which the presence of albumen can always be demonstrated, and is composed, as shown by the microscope, of cyst-like corpuscles.

In defining diphtheritic inflammation there is no unanimity of opinion. Bretonneau, the father of identity, says, there is a definite arrangement of fibrine and albumen. Virchow,—an exudation of dense amorphous fibrine. Oertel,—a definite arrangement of fibrine. Kwarth,—"A fibrinous exudation, but the term should only be applied to such inflammations as are attended by micrococci," which is in accord with another writer, who asserts that micrococci only exist in malignant disease, and multiply or diminish in a ratio to its intensity. Accordingly, Huetner treats of catarrhal or sero-purulent, contrasting it with the fibrinous or diphtheritic, and again of follicular and diphtheritic dysentery—or, as some say, simple and malignant.

Many writers treat of catarrhal or follicular inflammation of the smaller intestine, ranking it as simple enteric fever, or a "pseudo-enteritis," and again of a malignant diphtheritic inflammation attended with a thickening of "Peyer's plates," and radiating there-

from constituting the "malign diphtheria," or true typhoid disease. Again we have follicular inflammation of the tonsils and fauces, as also of the larynx and air passages, constituting true croup, and a distinct infectious malignant disease, styled diphtheria.

Croupous (pseudo-membranous) diphtheritic, or malignant, here becomes synonymous terms for one form of disease localized as it may be, while catarrhal or follicular, non-paralitic, and benign, are also terms for a separate class of diseases embracing croup.

Follicular and diphtheritic croup are liable to be diagnosed the one for the other—the follicular in cases of intensity seeming to approach the diphtheritic, but is never, like it, infectious or contagious. Again, diphtheritic croup is liable to be diagnosed in the suffocative breathing of simple laryngeal inflammation as scarlatina, or the sequelæ of measles.

Another distinguishing feature of Diphtheritic from follicular inflammation, is a sympathetic irritation of the skin, characterizing its malignancy. In typhoid fever we find a *papular* or *petechial* eruption. In malignant dysentery we have a *concolor* eruption in the *subunita*, and so in malignant diphtheritic affections of the fauces and trachea we have an erythematous rash.

I spoke of this to this society in 1864, but no one had observed it then, although Greenough, an English authority, mentions it. I have seen it occur during the second or third day of the attack, and fade the same day, and also at times, when the disease was subsiding. It resembles the German measles, coming out in bright and distinct patches, and disappears always on the second and third day after, leaving no trace behind. Were this epidemic sympathy constant in every case, it would be a valuable guide to the nature of the disease. To close we say that

Croup is not an epidemic.

Croup is not infectious or contagious.

Croup is not attended with palsy.

Croup occurs often.

Croup has no rash, no albumiuria.

Croup attacks children alone.

In croup, when the tracheal exudation is thrown off, recovery is rapid and sure.

Diphtheria is an epidemic.

Diphtheria is also infectious and contagious.

Diphtheria is frequently attended by palsy.

Diphtheria occurs seldom.

Diphtheria frequently has a rash, and albumiuria.

Diphtheria attacks all classes, old and young.

In diphtheria, when the exudation from the trachea is thrown off, recovery is slow and uncertain.

In diphtheria, the temperature, unlike that of croup, becomes, after a fever of 24 to 36 hours, subnormal, and the whole system is prostrate.

As regards the infection of diphtheria. On being called to a family where a child lay dead, treated for croup, I found another child with diphtheritic exudation from forward of the palatal arches—complete, with croupy breathing—coryza with epistaxis, an ash-colored, thick exudation on the elbow, which had become denuded, and the same in the eye, which was inflamed before his sickness. A third child had exudation in the fauces only, without croupy breathing—these recovered. The dead child was improperly nursed, as I remarked, by a lady who lived at a distance, where diphtheria did not prevail. Two days after she complained, and died on the fifth day, as I was told. Was it croup or diphtheria?

Two other children remained then well, a nursing babe, who entirely escaped, and a boy of ten, who was sent three miles away. In a week after, he was mildly attacked, and just to show the power of the infection, two boys, first-day pharyngitis in the new home, a short time after had pharyngeal diphtheria, one of which cases was followed by aphonia, and partial paralysis of sight.

ESSAY,

THE WOMAN AND HER BED IN PARTURITION.

By E. FRANK COATES, M.D., MURPHY.

The object of the first half of this paper is to give some useful directions that are not well described in books nor illustrated by lectures, but which have given me great satisfaction in quite an extensive experience. In the latter half are suggestions that have served me well, but with them the whole profession are not in full accord.

The first thing to know is whether the pains are true or false, which in many cases cannot be, but by a thorough and patient digital examination. If the os-uteri is not dilated and the pains make no impression upon it, they are usually false; and if the os is dilated even so as to admit one or two fingers, with the rim thick, and the pains do not thin it or put it on the stretch, then again the pains are of no avail, and generally should be quieted by opium in some form—Squibb's Compound tincture is preferred. But if the pains are found to be doing good and useful service, the bed and dress of the patient should be suitably arranged by the physician, or under his directions, at or before the end of the first stage of the labor.

The bed should be stripped of its covering and the mattress made smooth, or if there is a feather-bed, it should be raised and made as near like a mattress as possible. This should then be covered, especially the part over which the hips of the patient is to be placed after the completion of the labor, with a rubber cloth—if one is at hand—and over this a soft quilt of sufficient thickness to prevent the bed from being soiled during the lying-in period. The lower sheet is now laid smoothly over this, and another sheet doubled fourfold across the bed over this in position so that the

center of it will be under the hips of the patient when she is at most post partum.

This completes the preparation of the bed, but she is to finish her labor on this, and it must be so protected as not to get soiled. To do this we take a good sized quilt or blanket, fold this four thick and open it in the middle; if you do not have a rubber cloth (it is often missing), you can cover half of this smoothly with newspapers, then cover again and again until you have five or six layers of paper over the half, then double together with the papers in the middle. This is now placed where it is wanted for the protection of the bed; the two upper folds of the quilt will soak up the excretions if due care is taken, and the papers will not wet through.

Now the patient is to be dressed as she wishes for the bed when the labor is completed, with all skirts removed, and a sheet is folded in the middle lengthwise by the waist, if it has one, with a broad tape or narrow strip of cloth folded to be around the waist, next the skin, to take the place of the petticoat already removed. This being folded lengthwise is large enough and loose enough to wrap around the body and perfectly cover her nakedness, and in case it gets soiled, it being open in front, can at any time be easily removed, and a dry, clean one substituted. The underclothing, chemise, and nightdress should now be folded and drawn around the waist tightly enough to prevent them from falling down where they can possibly get soiled, and held in place by twine or tape that is to be tied around the surplus that is held by the band in front.

The woman is now ready for business, and if suitable cloths are furnished to soak up the waters when the membranes are ruptured, and the blood at the separation of the placenta, little besides these, the sheet that is around her, and the quilt that holds the papers under her, need go to the wash; and when the third stage of labor is over, and you wish to remove the wet, soiled things that are under and about her, all that need be done is to untie the tape that holds the sheet around the waist, and the twine that has held the nightdress; then wipe the lower limbs dry and have the soiled sheet under them. Now with soft cloths to the vulva, you will step upon the bed, and with your hands under the patient's knees, carefully raise the hips high enough so that the nurse can easily remove the quilt with the papers and the soiled sheet that has

answered for a skirt. The hips are now lowered and rest upon the four-folded sheet that was placed there for the purpose, and the patient finds herself upon a clean, dry bed without the least fatigue being produced by the change.

I have been thus minute and particular in my description of the arrangement of the bed and the dress of the woman during parturition, and have followed the details to the completion of labor for three reasons. It is convenient for the physician, confining to the patient during her labor, and in consequence of being able to remove all soiled clothes and place her in a comfortable position with so little trouble, it is of untold benefit to her afterwards.

If there is the least appearance of uterine inertia, ergot should be given at or near the end of the second stage, or just before the termination of the labor; and if *post partum* hemorrhage is at all abundant, it should be repeated as occasion may require. Chamber's method of compression and grasping the womb is considered not only good, but in most cases necessary to assist in the expulsion of the placenta, and also to prevent hemorrhage. The amount of hemorrhage necessary or to be allowed after the placenta is expelled will vary in different cases, but the rule to remove all clots and then allow as little as possible, should be followed in all cases. Dr. Transky stated before the New York Academy of Medicine, April 26, 1883, "that in bleeding whatever should take place after labor, that not one single drop of blood should be seen." No other member seemed to have had a similar experience, and it certainly does not coincide with my own.

The accoucheur, before examining his patient, will not be apt to forget if he has been attending to gangrenous sores, malignant diphtheria, scarlatina, or erysipelas, that he should be careful that his hands are thoroughly clean, but he may forget, in his haste, if called late, that he has been doing more than dirty work or possibly been licked by some pet dog that a few minutes before was festering on putrid meat, and so, by his carelessness, carry filth or septic matter within the vagina to do no mischief after he has returned to his home. If cleanliness is not to go ill on "anywhere," it is in midwifery, and other situations are rarely needed, and if any are used they should be those that are the least unpleasant to the patient, as alcohol, very weak solutions of corrosive sublimate, boracic acid or thymal. Carbolic acid, so

which relied on by most physicians, is poison to some patients, and the other very disagreeable.

After the shock of labor is over, and when the patient desires to urinate, the body may be carefully raised to a sitting position, then a strong person standing on the bed behind her, with the arms under her axillæ, and the hands clasped over her in front,—can easily raise the body so that the nurse can slide a vessel under her, supported in this position the water flows easily and all clots that are within the vagina will fall and not remain to become putrid, and if care be taken the patient will not be tired nor injured thereby. I do not believe in Dr. Goodell's plan of getting most patients into a chair in three days, for they vary greatly, and good judgment in this regard is needed, but the good nutritious diet of easy digestion that he directs from the first is to be commended.

If the above directions are followed, injections other than vaginal, for simple cleanliness, will be rarely necessary or useful. They are often disagreeable to the patient, uneasy, and keep her in constant apprehension of danger, which, if possible, should be avoided. Intrauterine injections may sometimes be useful to control hemorrhage, or wash out septic matter; but if not absolutely needed, they are liable to do harm by washing away useful secretions, entering the fallopian tubes, opening uterine sinuses and allowing air to enter the veins. If "medicæsome midwifery is bad," medicæsome injections in a normal case, except for cleanliness, is bad also, but "only the charlatan is always certain."

We sometimes find patients that have not been to the springs where soap and water was plenty, for some time before their trial came, and these must often be cared for tenderly. Their nervous system must not be shocked by even the hint that they belong among the "great unwashed" but we may suggest to the nurse that the skin is not acting kindly, and that it be washed with a weak solution of bi-carbonate of soda and wiped with a clean towel, the wash to be repeated as the case demands. I have known patients, doing badly before, improve rapidly after one or two good alkaline baths.

In the course of the labor, if the pains are acting with their usual frequency and force, and the patient is getting nervous or exhausted, or the pains are too forcible, an anæsthetic is needed, not only as a humane measure, but to prevent the exhaustion and shock that may

coke afterward, chloroform alone, or combined with alcohol, is to be preferred as most agreeable and least likely to produce nausea.

As regards the use of ergot and the forceps, old rules are fast giving way to those more reasonable, tender, and compassionate; the former being used less and the latter more, as time rolls on, for though the dictum of Blandine - that the forceps have been more injurious than useful to society," may have been true in his day, it is not believed to be so now, for with better knowledge, better instruments, and not waiting until the circulation is impeded, if not checked by the pressure; or the parts are lacerated, swollen, feverish and tender by the molding of the child's head, the forceps can usually be applied in skilful hands without much force, trouble or pain, many hours of pain saved the patient, with less danger of lacerating any of the parts, and greater safety to the child. The danger to the child, and the agonizing pains that produce such pressure as to endanger the circulation and bruising of the soft parts of the mother, is the reason why ergot has fallen into such general disuse, and I most fully enforce the language of another, - "When greater reliance is placed on the use of the forceps and less upon the administration of ergot much better results will ensue."

The abdominal-binder, so much prized by nurses and patients, is not of much service where there is good contraction of the womb, unless in case of loose, relaxed, and perfidious abdominal walls and a want of tonic action of the muscles; and if used for more than three or four days may cause prolapse or version. The perineal-band that is sometimes attached to the binder and considered so neat an arrangement, should never be allowed, for it will hold all clots and lochial discharges within the vagina, the free exit of which should never be hindered.

I hope these few practical hints have not wearied you. If duly considered and carefully practiced, they will be comforting to the patient, pain may be lessened or avoided, time utilized, and sometimes a valuable life saved.

THROMBOSIS, AS A SEQUEL OF LOW TYPHOID
FEVER AND OF OTHER ADYNAMIC AFFECTIONS,
WITH CASES.

By DAVID O. PORTER, M.D., NEW LONDON, CONN.

While this result is not often encountered in practice, yet when it does occur, it is nearly always after severe and protracted cases of illness and at a time when, so great is the prostration, that any unforeseen symptom of a depressing character is truly remarkable. On this account, it has seemed to the writer, that the mental, in outline, of some of the cases which have fallen under his notice might be both interesting and profitable.

CASE I.

March, 1883. This case occurred at a period when the true etiology and pathology of this affection were unknown. The physicians of that day encountered, of course, cases of *phlegmasia dolens*, but that they should follow low typhoid fever, in the absence of pregnancy, as a cause, was beyond their experience or explanation. Being myself called in consultation in such a case, its novelty was such that I was induced to take full notes of it, the substance of which I now present.

A married lady, thirty years of age, of weak constitution and delicate health, was attacked with marked symptoms of typhoid fever, such as violent chills followed by corresponding reaction, and great prostration, which was treated with stimulants, her expressions being constantly heard, "Oh, what a comfort that brandy is!"—pulse small, compressible, and rapid, but weak slower by the brandy; profuse perspiration at times, and sinking at the procecdia. As early as the sixth day, pain and tenderness appeared in the calf of the left leg, gradually approaching the groin and alternating with pain in the dorsal region; tenderness great along the inside of the thigh, and the femoral vein was hard and distinct below the groin. Much swelling of the limb commenced two days after the accession of the pain and followed its abatement. It is unnecessary to follow the details, it being sufficient to say that recovery, while tedious, was ultimately satisfactory.

It is true that, as long since as the occurrence of this case, the modern views of thrombosis as the cause of *palegmatia dolens* were approximately shadowed forth by referring it to phlebitis, but it is now well settled that there is no true venous inflammation (or but very rarely) as a cause; the swelling being referable, rather, to the clogging of the veins by conglutinated, impoverished blood. Thus, refers me to apostles, in few words, the well-known principles of pathology on this subject, as established by Virchow and others.

Thrombosis is sometimes called false phlebitis, but erroneously, as just stated. In certain morbid conditions of the blood, notably in prolonged adynamic typhoid fever, the spleen and the sympathetic ganglia concerned in the formation of the blood being seriously implicated, the vital fluid, even in life, spontaneously coagulates and forms what is known as a thrombus, and the process is thrombosis. An embolus is an entirely different thing, so far as formation is concerned, and is commonly found in a different place from its original position. When seated on the valves of the heart (its favorite location), and in any way it becomes separated, its ultimate deposit, as all know, is aneurisms.

But it may also result from the laceration of a thrombus by external or internal force, such as severe pressure from violent and prolonged muscular effort, a small detached portion entering the circulation. Thus the cases to be detailed will show the necessity of recognizing the distinction between the thrombus and the embolus.

For the sake of condensation, two cases, which are nearly allied, will be noticed under one head, viz.:

CASES II AND III.

October and November, 1877. During those months a young gentleman, twenty-three years of age, passed through a severe ordeal of typhoid fever, prominent among the symptoms being great rapidity and weakness of pulse, with high temperature, all of which remained nearly stationary for about four weeks. Convalescence then apparently commenced. But the trace was of short duration; fever and quick pulse returned, and after a few days, violent pain in the left leg supervened. As this subsided, it was followed, within three days, with marked oedema of the limb. The horizontal position was long maintained, the fever subsiding with the pain, which was greatly relieved by hot flaxseed poultices, their inner surface being saturated with tinct. of opium; fomentations and gentle friction being subjoined. Recovery was slow, leaving, for some time, stiffness and moderate oedema, the limb, even now, being incapable of sustaining fatigue like its fellow.

The other case is so analogous, in many points, that it will not detain us. The fever, which was typhoid, was severe rather in its duration, and the prostration of the patient, than in its high temperature, and

the amount and persistency of the nervous and abdominal symptoms. The subject was a collectionist, twenty years of age, who was taken ill in December last, 1883, and came home, where he remained an invalid for nearly three months. About the fifth week, apparent convalescence commenced, temperature and pulse became nearly natural, and appetite returned. Without any assignable cause, all the old symptoms returned, and we had to acknowledge a relapse, always an unpleasant occurrence. Some referred it to errors in diet, but with no truth, or reason, and we were about to suspect incipient tuberculosis, when he complained of pain and stiffness in the left groin, referred by him to the use of the bed pan. The fever continued, and the pain, more severe, moved to the calf of the leg, where marked swelling was found to exist, and soon the whole limb was symmetrically enlarged, as compared with its fellow. The pains and fever subsided, and after long continuance of the horizontal position (for fear of disarranging the thrombus by walking), and substantially the same treatment as in the foregoing cases, his health became entirely restored.*

CASE II.

In this case, the point of interest is, that venous thrombosis did not follow typhoid fever, as is the rule, but rather impoverished blood and chronic ill health.

1873.—The patient was fifty-four years of age, tall, spare, and amiable. Having traveled extensively, as an invalid, without benefit, he returned much debilitated, and with dry fever; took to his bed, and after three or four weeks began to have severe pain in the calf of the left leg, which swelled and became tender *up to* the groin. The edema continued long after all pain and tenderness had ceased, and indeed, exists now, to a trifling extent. Tonics, and the horizontal position with the remedies before mentioned, were used with success, though without fully restoring the morbid condition of the blood.

CASE V.

In this discussion, nothing is attempted beyond a condensed review of the knowledge existing on this subject. As all know, in venous thrombosis, if the vessel obstructed be large and important, great evils are wanted off by the protecting influence of an open collateral circulation. It is now conceded, that arterial thrombosis of the extremities, while less common than venous, as really exists, e. g., in vesicle gangrene,

*No knife has been used in relation to treatment, it may be proper to add that in this case, so great were the weakness and prostration during most of the illness (prior to the thrombosis, diarrhoea, and which it followed) frequent doses were required, the indications being chiefly large quantities of beef-jelly, extracted, as needed, from the raw steaks, by steam pressure, as in the new levered apparatus for that purpose. Besides which he took generous quantities of milk, and ate doses of bismuth and opium.

cases being reported by Vinchere and others. The waller of the artery is obstructed by a thrombus, just as in the vein. In the following case, the writer is unable to decide whether the obstruction came from the impoverished blood of the fever, or from arteritis.

In the summer of 1879, I visited a telegraph operator, in consultation, thirty-four years of age, long ill with typhoid fever. He was suffering intense pain in the region of the left groin and thigh. He died not long after, from wet gangrene of the parts just mentioned, the most penetrating and offensive scapes filling the house, from probable thrombosis of the femoral artery. Had the femoral vein been the occluded vessel, the result, with an open collateral circulation, might have been different.

CASE VI.

In our sixth and last case, the cause of death is doubtless incontestable, namely, to venous thrombosis, although the immediate cause was embolism of the pulmonary arteries, as shown by the present writer in an article published in the December number of the *American Journal of the Medical Sciences* for the year 1876, and of which the following sketch is an outline:

A prominent merchant and philanthropist, of this city, sixty years of age, made a journey to San Francisco, soon after the construction of the Union and Central Pacific Railroad, and from long confinement in a contracted position, in close air (as he thought), he had a slow fever, with pain in one of his legs, followed by edema, which continued for weeks after his arrival, and was treated with strictly horizontal position, the physician regarding the case as one of phlebitis. The limb, ever after, was slightly crippled and larger than its fellow.

For some months previous to his death, he was fond of practicing, daily, at the "health lift" as adding to his strength and vigor. About the middle of April, 1876, he attempted to lift (as he supposed) the same number of hundred pounds, as on the day previous, but was unable to do it. Not to be beaten by himself, by a tremendous effort, he accomplished the feat, and 160 lb. is now the side, or gauge of measurement having been moved without his knowledge. This strain, at his time of life, inflicted injuries which were felt during the two remaining weeks of his life. But it did more. Those who practice the "health lift" say, that the lifting effort affects the muscles of the lower extremities particularly, in straightening and bending the knees. Thus, a portion of the old thrombus was lacerated off and became an embolus, which continued to go the rounds of the circulation, until the 19th of April, when, after an agonizing illness of half an hour, the patient passed away; a thorough "post-mortem" revealing embolism of the pulmonary arteries. A caution against heavy lifting, to those who have suffered from femoral or cerebral thrombosis, is obviously implied.

A CASE OF GLIOMA OF THE RETINA, WITH ILLUSTRATION.

By W. T. BAIRD, M.D., HARTFORD.

The eye which I present to you was removed from a boy five years of age, Jan. August. L. T., age five, was brought to my office in August by his father, who stated that a day or so before, an aunt, while playing with him, discovered an unusual look about the right eye. This led to further examination, and to the discovery that sight was gone in that eye. Alarmed by these discoveries, they consulted me. On being questioned, the father thinks that, some six months before, the boy complained of not being able to see with the right eye while the left was covered for some slight ailment. He thought nothing of this complaint, as the appearance of the eye was unchanged. The boy was fairly well nourished, of good color, and of rather nervous temperament. The right eye proved on examination to be blind, even to light. The external appearance healthy, pupil almost normal in size, but gave a yellowish-white reflex. There was no increase in the tension of the eyeball, nor gain in eye or head, nor had there been.

The ophthalmoscope showed a yellowish-white growth occupying the inner side of the eyeball. No red reflex could be seen from the fundus. The diagnosis of an intracocular tumor (probably glioma) was made, and the father informed that a growth existed in the eyeball which would probably necessitate its removal, and requested to return in a few days. At the second visit, enucleation was decided upon, and on the day following, assisted by Dr. George Lewis, the eye was removed. The cut end of the optic nerve appeared healthy, which was favorable as regards prognosis. The boy made a good recovery, and has thus far remained free from the disease.

On opening the globe, a tumor, yellowish-white in color, and cauliflower in appearance, was found. This occupied the greater

portion of the globe, as may be seen from the drawing. It apparently started from the optic papilla, and grew anteriorly until the ciliary region was reached, where it became adherent and expanded laterally. There is no bulging of any part of the eyeball, nor does the cut end of the optic nerve seem implicated. Under the microscope we have the nasal round cells of this form of tumor, lying close together in a granular or striated matrix. These intracocular tumors are known by the names of medullary cancer, encephaloid tumor, and when allowed to run their course, become what used to be called *fungus lacrimatorum*. The history of these growths is that of encephaloid cancer, and they are divided into four stages.



EXPLANATION OF PLATE.

Section through the eye, passing through the middle of the tumor.

a—Optic nerve.

b—Vitreous space.

c—Tumor.

d—Part ciliary retina.

e—Lens.

f—Vitreous space between tumor and retina.

g—Free surface of tumor.

h—Detached retina.

1st. The disease is confined to the retina, and gives rise to no symptoms of irritation. 2d. The globe is filled with the pseudo-plasts, is hard and painful; pupil dilated. 3d. The globe is perforated, generally the cornea giving way; the sclera may be bulging in one or more places, and the tumor extends into the orbit and brain; in this stage the majority of patients die, but to those who survive there is a fourth, namely, that of metastatic growths in other parts of the body. Usually glioma takes its origin from the neuroglia, and is composed of a basis like the

neuroglia and cellular elements (Knapp). These are small, round, granular, and contain quite a large, round nucleus, and are found lying close together in a granular or striated matrix (Knapp's Med. Record, Vol. 9). Vetsch has lately described a new form of cell in these tumors, especially to be found in fresh specimens. He describes them as "peevled with two or more offshoots of different lengths, and occasionally remind us of the forms generally assumed by living cells in amoeboid movement. Senke "classifies glioma under three heads: first, round-celled glioma, second, glioma with polymorphous cells, third, glioma with brush-shaped or spindle cells." Vetsch considers the relative frequency of this form of tumor as about three per cent., he having met with twenty-three cases among seventy-five thousand eye patients. Hirschberg makes the proportion somewhat larger, about five per cent.

All writers on this subject agree that this disease belongs to the periods of childhood and infancy, several cases are on record in which it was congenital (Vetsch), the greater number being observed before the fifth year. Dr. Merrill of Albany, reports to the American Ophthalmological Society at their meeting in '82, a case occurring in a young man twenty-one years of age, with no relapse after four years. Previous to this time, no undoubted case had been observed in a person older than twelve (Hirschberg). As to the cause of glioma, nothing definite is known, but it has been observed that several members of the same family have died from the pseudophthalmia (Siebel, Graefe). The symptoms depend upon the stage at which the patient has arrived when first seen. Those of the first are an eye externally healthy and normal, no pain or inflammation, the pupil may or may not be dilated; behind it is seen a glistening yellowish-white reflexion from the fundus of the eye. The sight is found to be lost. With the ophthalmoscope the shape and size of the growth can be seen. The symptoms peculiar to the second stage are dilation of the pupil, hardness of the eye, and generally pain accompanied more or less by redness of the eyeball; with the ophthalmoscope the growth can be seen filling the eyeball. The third stage shows an eye perforated in some part, usually the cornea, with protrusion of the tumor. The movements of the ball are restricted, and there is marked protrusion. Soon the lids become everted, red, and swollen, the growth increases rapidly, becomes very vascular, red in color, and exudes from the surface a watery, reddish fluid.

In considering the course of glioma, a distinction must be made between operated and non-operated cases; of the former, from the time at which the disease was first noticed in cases reported by Vetch, sixteen months was the average duration; of the latter, five out of the thirteen lived, and of the eight who died, the average duration of the disease was twenty and one-half months. The prognosis of this affection is very grave. Those cases which are not operated upon, and those operated on in the third stage, all die. Of those operated upon during the second stage, a few recover, and of those seen during the first stage and upon whom excision of the eye is performed, nearly half get well. Vetch reports five recoveries in thirteen cases operated on. No conclusion of an absolute cure can be drawn until at least three and one-half years have elapsed since the operation with no return of the growth.

In the Archives of Ophthalmology for March, 1883, there is a record of thirteen permanent recoveries. Four are cases of Hirschberg; the time since the operation varies from three years six months to twelve years. Nelsson, one case, four years four months. Landenberg, one case, six years. Agnew, one case, six years. Lawson, one case, six years. Nettleship, one case, five years. Vetch, four cases, and the one mentioned before by Dr. Merrill, four years. The treatment is excision as soon as possible after the diagnosis of the disease is established. The writers on glioma are very positive on this point. Vetch, on this point, says: "We should insist that the operation for glioma is one of the most urgent in surgery; also we should not on the whole be influenced by the uncertainty of the diagnosis in these cases, but interfere actively in every case which is probably glioma, even going so far as to run the risk of enucleating an eye which is blind from iridochoroiditis." If after the removal of the eyeball the disease returns in the orbit, the whole cavity should be excavated, cauterized, and the periosteum scraped with a sharp spoon. There are several cases on record, where after a relapse this second operation has proved permanently successful.

PERITYPHLITIS RESULTING IN ABSCESS.—OPERATION.—RECOVERY.

By A. E. ABRAHAM, M.D., HARTFORD.

December 17th, 1882, I was called to see W. B., *et. 16*, painter. Three days previous he had left his work, complaining of a "very tired feeling," and during this time he remained in the house, but did not keep his bed. Had been chilly at intervals for several days, but had not experienced anything which could be considered a well-marked chill. I found his temperature $102\frac{1}{2}^{\circ}$, pulse 108, tongue heavily coated and bowels constipated, urine scanty but voided without pain. *No tenderness over any part of the abdomen.* Examination of the heart and lungs negative. His countenance presents the appearance of a person seriously ill and is hardly accounted for by the physical examination. He was ordered

- R. Chalked Sulph. ʒ i.
Ac. Sulph. Aromat. ʒ ii.
Syr. Aurant. Coct. ad ʒ ii.

Of which a teaspoonful was given every three hours. Also, small doses hourly of acetate and gelatinum during the afternoon with a laxative at bedtime. On the following day his condition continued much the same, the temperature having fallen 101° and the pulse registering 102. On the third day of my visits there was marked tenderness in the right inguinal region. Under the use of hot fomentations, with opiates internally, this grew daily less, and on the 6th of January his pulse and temperature had fallen to normal, tongue clean, appetite good, and everything seemed to point toward a speedy convalescence. He was warned not to leave his bed on any account before my next visit.

When I next saw him the temperature had risen to 100° and the pulse to 98, with greater tenderness of the abdomen than at any previous time, and within a week a well-defined tumor could be detected at the site of tenderness. Dullness extended beyond the median line over the bladder, giving the impression that that

organ might be distended. The catheter failed to find but little more than two ounces of urine. I began to fear that the inevitable result would now be an abscess, and Dr. Steven saw the case with me. It was decided to continue the local and internal treatment, and watch the case carefully for the first manifestations of pus formation. Jan. 18th, Dr. Wainwright saw the patient with Dr. Steven and myself. A hypodermic needle was introduced into what seemed to be the central part of the tumor but no pus was found. Patient now has much pain and great difficulty in emptying the bladder. At each subsequent visit a long hypodermic needle was thrust into the tumor and on the 18th a few drops of foul-smelling pus flowed into the syringe.

Arrangements were at once made to operate on the following morning (Jan. 19th). It is interesting to note just here that nothing in the symptoms indicated that pus had formed, and, for the exploring needle, it would hardly have been possible to have decided positively as to its presence. There had been no chill, no marked fluctuation, either in the temperature or pulse, the former varying from 101° to $101\frac{1}{4}^{\circ}$ and the latter from 119 to 124 for several days previous to the detection of pus. On the morning of the 19th, in the presence of Drs. Steven, Wainwright and Fuller, I proceeded to operate. The patient being etherized, I made an incision three and one-half inches long, parallel with and one inch above Poyet's ligament, using the point at which the needle was introduced on the previous day as a guide for the center of the incision.

After dissecting carefully down to the deep fascia, a few drops of pus appeared at the central part of the incision. Enlarging the opening by the dressing forceps and the finger, about six ounces of pus and blood were evacuated. The cavity of the abscess was carefully explored with the finger but no foreign body or focal concretions could be detected. After washing the cavity with a two per cent. solution of carbolic acid, wicking was introduced for the purpose of drainage. The patient rallied well from the ether, and his temperature, which just before the operation was 101° , fell to 99° within one hour after. Due, probably, to the shock of the operation rather than the discharge of pus as it rose again before the following morning to its former height.

The abscess was washed out twice daily with a solution of corrosive sublimate ($\frac{1}{1000}$) and dressed with absorbent cotton and oakum, the former being saturated with a two per cent. solution

of carbonic acid. The patient was given a liberal quantity of peptonized beef and milk punch, with five grains of citrate of iron and quinine, three times daily. The nourishment was given at night, as well as during the day. Although the discharge of pus was very profuse for several days, and at one time a slight discharge of fecal matter accompanied it, the patient made a comparatively rapid recovery. As the opening contracted to a sinus, it was filled daily with balsam Peru and Iodoform, (3 i. 3 i), which seemed to facilitate its healing. The patient was discharged on the 17th of February, and when he called at the office a month later there was nothing left but the external cicatrix to remind him of his former trouble, all trace of the hardness which at one time extended across the lower part of the abdomen to the left inguinal region having entirely disappeared, and he walks without difficulty.

While we cannot say this case would have terminated fatally without operative interference, yet it is more than probable that such would have been the result. There are few diseases which place the patient's life in greater jeopardy, or give the physicians more anxiety than perityphlitis, and everything which tends to throw any light on its course or treatment ought to be given to the profession. Although the late Dr. Willard Parker first performed the operation over forty years ago, it is within the last sixteen years that it has been placed among the well-established surgical operations. In closing, it may not be out of place to review a few of the salient points in the diagnosis and treatment.

1. There may be little at the beginning to point out the seat of trouble. This patient had no tenderness whatever during the first three days.

2. An apparent curelescence should not put us off guard, as the symptoms may all return and the disease result in abscess, as in this case.

3. The subjective symptoms cannot be relied on to warn us of the formation of pus. The exploring needle should be used only after abscess is suspected. It will do no harm and may do much good by telling the proper time for operation, which is as soon as pus is found.

4. There is more danger of making the external incision too short than too long. Three and one-half inches in this case was not too much. The external wound tends to contract rapidly, and interfere with the free extension that must be maintained.

A CASE OF ACUTE ERYSIPELAS FOLLOWING LEECH-BITES, COMPLICATED WITH SUPPRESSION OF THE URINE, AND FOLLOWED BY AN ABSCESS IN THE RIGHT MIDDLE EAR.

By Geo. W. Aiken, M.D., Hartford.

A lady of about sixty years had been in good health with the exception of a prolonged attack of malarial fever in the summer and fall of 1883. On the morning of January 23d, six leeches were applied to the temples, four to the right and two to the left, and bleeding continued until noon, when it was arrested by the application of cotton.

On the morning of January 25th, there was a slight swelling around the bites on the left temple, and the patient complained of chilliness and fever and great soreness of the muscles of the body.

There was too great disturbance of the body to admit of sleep or rest. January 26th, A. M., in addition to the swollen state of the affected parts, there was noticed a distinct color of redness, and there was a sensation of pain on pressure with the finger. I first saw the case on the 26th of January, and found a line of bright redness extending from the temple to the clavicle and anterior to the ear. I found the temperature 103°, and pulse 124. The patient was in great distress from what appeared to be a state of disturbance of the nervous system as well as by the fever and painfulness of the affected parts.

At the time of my next visit the disease had advanced in every direction, the left ear and cheek being included in the inflammatory process, although efforts were made to circumscribe the trouble by the free use of nitrate of silver.

On the 3d day of my observation of the case, there was acute delirium with exhilaration and hallucination. The entire head, neck, and shoulders, with the exception of the chin, had become deeply involved in the disease, and the case was of ordinary character, when considered in its more serious aspects, until Thursday, January 31st, when the kidneys ceased their function, and we were quickly in the presence of acute uræmic poisoning. Active efforts were made to re-establish the function of the kidneys. Infus. Dig. dry cups and digitalis potitions were used. The patient was restless and inclined to swing the arms

across the body, with rigidity of the muscles of the arm and fore arm. Atropin and morphia were given hypodermically in sufficient quantity to control her agitation and secure tranquillity of mind and body. It was interesting to note that the respiration improved and the stupor was less marked when she was more fully controlled by the atropin and morphia. During the evening several ounces of urine were drawn from the bladder; the bowels, in the meantime, having been well moved with *Pur. Jalap Comp.*, and it became evident that the patient was relieved to some extent of the uræmic trouble. She had been fed with milk and beef-tea, but the latter was discontinued for the reason that it might embarrass the kidneys with its nitrogenous properties.

February 18, patient quieter, and breathes more freely; but the morphia and atropin cannot be discontinued, as the trial to do so indicates. Examination of the urine revealed the presence of albumen, an abundance of urates, blood, coloring-matter, and hyaline casts. Medication for the erysipelatous state consisted of Tr. Fer. Rosinifol. and Sol. Quin. in full doses. Digitalis was adminis-tered for the renal complications. The acute uræmic symptoms were great restlessness and delirium, quickly followed by stupor, apnoea, and spasmodic movements of the arms, and irregular, shallow, and stertorous breathing.

February 21, 22, 23, and 24, the patient secreted from twenty to twenty-four ounces of urine every twenty-four hours, and regained a state of quietude, but did not recover from the delirium and mental disturbance. February 24 marked the last advance of the erysipelas, and it seemed as though the more serious conditions had been met and safely passed; but such was not to be the history of this case. During the afternoon of the 25th of February, the uræmic disturbances again returned, and the breathing soon became very shallow, and at each expiration the cheeks were puffed out. Atropin and morphia were again given, and whisky and milk given freely. The indications seem of failure of the respiratory centers, and belladonna was given as a stimulant therapy, and with apparent good effects. The secretion of the urine ceased, and the brain seemed overwhelmed with the double poison of erysipelas and uræmia and uric acid. The hot-air bath gave but little relief, and at 8 p. m. grs. li. of Tig. followed in an hour by 4 grs. gave many profuse evacuations from bowels.

February 25, 6 a. m. Urine found in bladder, with no further trouble of its secretion. During the night of the 25th of February, the patient passed into a profound stupor, which continued for about fourteen hours, although the Castor oil was acting very freely upon the bowels. After the restoration of the function of the kidneys, the coma-like stupor gradually passed away and the mind regained its activities. During the time of the stupor the breathing was slow and labored, and the lips and cheeks puffed out on each expiration. It was

interesting to note the restoration of intelligence as soon as the function of the kidneys was restored, and conversely the lethal effects of the retention of urea and uric acid within the system. Abscesses formed in both eyeballs, the right eye shrinking. An abscess also formed in the right middle ear, which made an opening through the membrane tympani and discharged profusely a thin, watery fluid; this was treated with hot-water irrigation and Boracic Acid gargle, which dried up the discharge in a few days. The pulse ranged from 90 to 110 per minute, and the temperature from 101° to 102° F. A rise in temperature and an increase in pulse marked each advance of the erysipelous inflammation. A remarkable and extremely favorable feature of the case was that the stomach retained food and medicine, with a single exception, throughout the disease.

There are several points of interest and importance in this case:

- 1st. The importance of early treatment, that the blood may be fortified against the invasion of the poison of this disease.
- 2d. The danger of renal complication and the nobleness of its development.
- 3d. The efficiency of drastic purgatives and profuse sweating.
- 4th. The value of Euthedon as a respiratory stimulant.
- 5th. The vital importance of securing free action of the kidneys, as they seem to be the main avenue for the removal of uric acid matters from the system.

CASES OF INTEREST.

By PROF. W. H. CALEBURN, M.D., OF NEW HAVEN.

CASES OF TONGUE OPERATIONS FOR REMOVAL, WITH PRELIMINARY
LIGATION OF BOTH LINGUAL ARTERIES AND TRACHEOTOMY; PATIENT
SUBMITTED TO SECTIONS OF SOCIETY.

J. M., aged forty, truckman, was admitted to the New Haven Hospital on 12th of April, 1884, with the history that seven weeks previously he noticed his tongue swelling, and that it was coated with a thick, tenacious fur. The swelling became so great as to prevent his closing his mouth, but not his lips. He has been a persistent smoker of tobacco, and shortly before this he had bought some which was "very strong and smarted his tongue." The swelling had subsided somewhat, so that now he can, by an effort, close his mouth. It is still, however, about double the size of an ordinary tongue, though he volunteers the statement that it "always was big." He has been able to take only liquid food since it began to swell, and he says he has lost much flesh although he looks well nourished. His teeth are loaded with "tartar" and his breath is very offensive. His gums are much swollen with a distinct reddish-blue line along the teeth, and there is very considerable salivation, but he gives no history of macerualization. His speech is almost unintelligible. The tongue is quite inflamed, especially around its edges, and in one portion at about opposite the right canine and incisor teeth it is eroded, the base of the ulcer being granular. The surface is here a little below the level of the surrounding (swollen) part. The inflammation gradually lessens posteriorly, so that one-third of this part is of nearly normal consistence. A very careful examination detects no enlarged lymphatic glands about the angles of the jaw, nor in the floor of the mouth. He has had no pain in the tongue, only the inconveniences.

The patient was ordered a mouth-wash of chlorate of potassa, bicarbonate of soda, alum, oris-root powder, and tincture myrrh, to be carefully washed out every hour. The "tartar" was thoroughly cleaned off from his teeth, and he was ordered liquid food in sufficient quantity. Under this treatment the swelling subsided considerably, the tongue became clearer and the blue line disappeared from his gums. The inflammation about the tip and edges continued, indeed, with the subsidence of the

surrounding swelling it became more marked. On April 23d, and subsequently, patient complained of darting pains through the tongue, and on consultation it was decided to amputate it. Accordingly, on September 28th, the patient was anaesthetized and assisted by Dr. T. H. Russell. I operated as follows: I first passed a large ligature through the tongue in order to keep it drawn forward, as from its large size it was liable, during the administration of the ether, to fall back and block up the entrance to the larynx. I then ligated both lingual arteries with catgut ligatures, washed out the wounds with a solution of carbolic sublimate, 1 to 1,000, and sewed it up with a continuous catgut suture. On the left side I divided the hypo-glossal nerve, having first ligated it by mistake for the artery. I may remark here that both these wounds united by first intention throughout their whole extent, the catgut sutures were absorbed, and I never gave them any other than the slightest dressing.

The tongue was then washed with curved scissors, and the floor of the mouth down to the hylo-hyoid muscles cleaned out. On the right side the tongue was divided at about on a line with the second molar tooth, but not quite so far back on the left, as the induration was not so marked on this side; the line of incision was, however, quite behind all perceptible induration on either side. The operation was almost bloodless, the ligation of the lingual arteries fully compensating for the sedation of the preliminary operation, rendering the operating field nearly as clean as when operating on a limb with the use of Esmarch's elastic bandage.

I then proceeded to make a tracheotomy, and in doing this the only unpleasant incident of the series of three operations occurred. As I was cutting down upon the trachea I found the isthmus of the thyroid gland unusually broad, necessitating carrying the incision lower down than usual. Owing to the deeper situation of the trachea as it passes behind the sternum, a pillow was placed under his shoulders to make the neck more prominent, and the dissection was carried on deliberately. I did not feel in any hurry, as there was no tendency for the stump of the tongue to fall back, nor hemorrhage from the wound in the mouth into the larynx. I was, therefore, surprised to notice the respiration stop, and the face become rapidly cyanotic; at the same instant a gentleman having his finger on the radial artery exclaimed, "his pulse is fluttering," and I saw the pupils suddenly dilate widely. I looked about to find the cause, passed my finger down behind his tongue to press that forward, found everything clear; Dr. Russell began artificial respiration, but the air did not enter the chest, and I then noticed that the position of the head, falling back from the elevated shoulders, had practically closed the trachea "fine and all." The pillow was removed, a couple of movements of artificial respiration repeated, when the color came back to

the face, all the untoward symptoms disappeared and the patient breathed again as usual. I mention this as an argument against Professor Brown's plan of operating on the parts about the mouth and nose by, as he calls it, "the hanging lead." This consists in bringing the shoulders of the patient to the edge of the operating table and allowing the head to fall over backwards as far as it will, thus bringing the force of gravity to aid in preventing the blood from trickling into the trachea. It probably would be successful, but is liable to be accompanied by the accident mentioned. I think Dr. H. F. Wier of New York has called attention to this objection also.

The operation of tracheotomy was then finished, and a Durham's tracheal tube inserted, as being less likely to irritate the posterior tracheal wall, a point of importance as the tube was to be kept in until granulations were formed on the cut surface of the larynx. The fauces were then plugged full with a large sponge and the nostrils with absorbent cotton; the wound in the mouth was dressed with iodoform dusted upon it and 50c. iodoform gauze laid upon the surface. He breathed regularly and calmly through the tracheal tube, which was kept covered by a couple of folds of antiseptic gauze constantly moist with a 1% solution of carbolic acid. About four hours after the operation, during a paroxysm of coughing, the tracheal tube was forced out and as the Durham's tube was found unreliable, not keeping in position well, it was changed, but all the tubes accessible were found unsatisfactory, as in all the ordinary lengths the tracheal end was tilted out during the effort of coughing, by the contractions of the sternal ends of the sternocleidomastoid muscles upon which the flanges of the canula rested. After some difficulty one was inserted, the patient in the interval breathing sometimes through the opening and sometimes through his mouth, the sponge being removed for the purpose, but the surface of the wound kept covered as described. This accident occurred several times during the night and the next day until a longer tube was procured, after which there was no trouble from this source.

The patient was ordered to be nourished by enemata of 2 oz. of beef extract every four hours, and 8 oz. of milk by the mouth through a stomach tube every four hours alternately, so that he received nourishment every two hours. The temperature of room was ordered to be kept at about 80° F. and impregnated with steam. The mouth was constantly plugged; the tracheal tube removed and cleansed and the mouth washed out every hour. The directions were in the main followed out; difficulties in their administration were met promptly and intelligently by Drs. Leemis and Bogert of the house staff, and the nurses of the Connecticut Training School were unerring in their attention to the patient and faithful in obeying instructions. I ascribe a large part of the success of this part of the case to the excellent assistance I received.

On May 1st the plugging from the larynx was left out as it was extremely disagreeable and by the motion of his stump of a tongue and pharynx, kept working free. The nostrils were still plugged, however, and he was compelled by the nurses to keep his mouth shut, thus breathing as before through the tube; the wounded surface was dressed as before. The secretion from the trachea which was coughed up through the tracheal tube, was to-day noticed to be persistent and more profuse, but not excessively so. He has slept well every night since the operation and has taken sufficient food by rectum and mouth together. On May 3d, patient objected so strongly to the stomach tube that he was allowed, after carefully washing out his mouth, to drink, which he did readily enough by filling his mouth full and throwing his head far back. The surface of the wound in the mouth showing a disposition to form an abscess of healthy granulations, and no fever being present, the tracheal canula was removed the next day, but this wound gaped, and the whole surface was covered with a pyogenic membrane. It was washed out with a solution of potassium permanganate and covered with several layers of antiseptic gauze, the latter afterwards changed to a sponge frequently moistened with a similar solution.

On May 10th, patient's temperature rose to 101.4° and for the next week oscillated between 98° in the mornings and 102° or thereabouts in the evenings. There were coarse mucous rales over the upper and middle portions of the left lung, and some dulness at the apex. He was fed on as nourishing a liquid diet as possible, consisting mainly of raw or soft boiled eggs well beaten up, beef extract, milk and flowers, mustard, etc. And he is ordered 2 cc. of cod liver oil daily.

There was nothing worthy of note after this in the cicatrization of the tongue and mouth, and as you now see, it is fully accomplished just one month since the operation. The tracheal wound however has not closed and shows but little disposition to do so. The cut extremity of one of the divided tracheal rings appears necrotic at the bottom of the wound. There is considerable purulent secretion coughed up through the orifice which is kept covered with a large wad of hoisted cotton, enveloping all the anterior portion of the neck, extending down upon the chest, all firmly strapped with a roller bandage of adhesive substance gauze. He does not emaciate perceptibly, but neither does he apparently gain. His temperature continues to rise to about 101° every evening, sometimes higher; less frequently, lower.

There is not time now, without trespassing on the privileges of others, to give at any considerable length, the reasons for adopting the method of operating described, so much more complicated and tedious than those formerly practiced. The plan is developed from our knowledge of the causes of death following the operation, being (aside from respiratory causes which are not considered here) almost exclusively septic in their

character, and consists, in short, in the adoption of measures that, so far as the locality will allow, are either directly antiseptic in their action, or guard against septic materials entering the organization. For a more complete discussion of the subject I must refer the members to Mr. Barker's very admirable article,* where the reasons are given at length, with the statistics.

For an operation of this comparatively slight magnitude, not involving any directly vital organ, the mortality has always been recognized as very large. Prior to 1870 it was, according to Mr. Barker's statements, derived from Killoth's Clinic at Vienna, from Kocher's of Bonn, and the statistics of University College Hospital, where he and Mr. Christopher Heath have operated, about 40 per cent. of the cases operated upon, while since that time it would seem that it has been reduced, in the same services, to something like 10 or 12 per cent.

The results of autopsies show the principal causes of death to be septic infection of the lungs in one form or another. That decomposition is going on rapidly in the mouth after this operation, would not be denied by any one who has approached a case before the wave through modern antiseptic forms of treatment came into vogue, and to those who have not had this opportunity, I beg to recall to their memories the more familiar but infinitely less severe cases of compound fractures of the lower jaw. We are all of us familiar with the intolerable stench in these cases. How much worse, therefore, an aspiration of the tragus must be can readily be imagined. That such a quantity of septic material lying constantly in the mouth (for the most careful nursing can only wash it out, comparatively to the inspirations, very infrequently), the exhalations therefore drawn into the lungs from 20 to 30 times a minute should be a source of great danger to the lungs, need, in the light of our present knowledge of infectious conditions, only be assumed to be appreciated.

Three fairly distinct forms of pulmonary diseases are found in post mortem examinations, viz.: most infrequently, typical pyemic abscesses, these truly pyemic cases, always run a long course, and are associated with purulent deposits elsewhere; more often than these are a number of cases, following more directly purulent infection of the neck, with gravitating abscesses into the mediastinum, penetrating into the pleura and lungs, this form is, of course, more rapidly fatal than the former, but neither is it so rapid nor so frequent as the more direct septic infection of the pulmonary tissue from the fœtid products of decomposition in the mouth. These are either drawn into the lungs with every inspiration or they trickle down into the larynx and trachea, owing to the inability of the patient so to manage his mutilated stump of a tongue as to prevent it.

* Holmes' System of Surgery, 2d English Edition, Vol. II, p. 568, et seq.

The descriptions given by the various authors of the conditions of the lungs after death show the septic origin. They speak of lungs permeated with decomposing, purulent nodules; the bronchiae filled with fetid, purulent fluid; gangrene of lung; acute broncho-pneumonia; areas of gangrenous inflammation, all pointing to a direct infection from the putrid contents of the mouth.

The value of the method of operating described by Mr. Barker, which I endeavored to follow, therefore consists in securing for the expired air, so far as possible, freedom from septic influences. By the ligation of the lingual arteries, besides the advantages already described of having a clean operating field, there is much less bloody exhalation from the cut surfaces after the operation; by the tracheotomy the expired air is drawn from an uninfected locality; by the plugging of the fauces and nostrils the accidental entrance of air loaded with decomposing materials is, in a great measure, if not entirely, prevented, and finally the wound in the mouth can be kept constantly dressed with antiseptic remedies. I can but regard the lung complication in this case as being due, rather to the tracheal fistula than to irritation from septic infection by way of the mouth, and the tracheal fistula to have been caused by the accident from the too short tracheal canula.

A CASE OF UNSUCCESSFUL WHIRL OF THE PATELLA FOR UNUNITED FRACTURE.

W. H. H., aged 39, was admitted a second time to the hospital, September 29, 1881, having been treated there eighteen months before for a transverse fracture of the right patella, and discharged with a ligamentous union of about 2½ inches, wearing a posterior stiff leather splint which he has continued to wear since. One week before admission, in sliding off from a hay mow, the heel of the foot of his right foot caught on the edge of a barrel, bending the knee, violently and rupturing the ligamentous union. On admission, the fragments were separated about 5½ inches, and there was considerable swelling and pain in and about the joint. The leg was placed at rest and ice and foam-tannin applied to reduce the inflammation.

On October 16th, the leg was put up on a long inclined plane reaching from the buttocks to below the foot, with a foot-piece, and elevated about 27°. Adhesive plaster covering a large part of the quadriceps extensor muscle down to the patella was applied, and a roller bandage over this again. To the adhesive plaster elastic tubing was fastened, and this attached to the foot-piece, keeping up a uniform extension. The lower fragment was simply fixed. In the course of five weeks the distance between the fragments was reduced to about 1½ inches, but the ligamentous union was so very slight that if the extension was taken off it seemed to yield to the contraction of the quadriceps, and the move-

ments between the fragments was quite free. Inspired by the then recent address by Sir Joseph Lister, on the "Treatment of Fracture of the Patella," delivered at the Medical Society of London, and published in the *Lancet* of November 2, 1883, in which he reported seven successful cases of wiring the fragments together under antiseptic precautions, I determined to attempt the same operation, following as nearly as possible in his steps as there given. Accordingly on November 28th, the patient being anesthetized, and using the carbolic spray as well as all other antiseptic precautions, an incision about five inches in length was made directly over the patella in the long axis of the limb down to the fragments. A thin ligamentous band united the latter; this was removed and the joint thus exposed. The opposing surfaces of the patella were scraped clean of all fibrous material so that when they should be brought together osseous tissue should be in contact. The drainage was then provided for as Lister advised, by carrying a pair of closed dressing forceps through the joint in the intercondylar space, pushing them through the synovial membrane and capsule downwards to emerge into the popliteal space quite external to the artery. As the forceps presented underneath the skin, this was incised and the forceps then pushed through the opening. The rubber drainage tube was then grasped by the forceps, and as they were withdrawn through the joint the tube was drawn into it; when safely within the joint the hold was released, the tube remaining in place.

The fragments were then drilled so as to bring the holes on the fractured surface exactly opposite to each other on the median line, and each about a line from the lower surface. Then introducing the pure silver wire, which was about $\frac{1}{16}$ of an inch in diameter,* the attempt was made to draw the fragments together, but no direct force that could be exerted was sufficient to approximate them more than $\frac{1}{4}$ of an inch, and then on twisting the ends of the wires together, and thus getting greater force, the wire began to cut through the bone of the upper fragment. I then divided the tendon of the quadriceps muscle subcutaneously, but it still required all the force that could be exerted upon the fragment, using both the wire already introduced and Ferguson's lion-jawed forceps to get traction, before the fragments could be brought to within $\frac{1}{4}$ of an inch of one another. In using this force the wire fractured the upper fragment longitudinally separating a small fragment from the inner side; another wire was then introduced through the larger piece, and the two pieces united by a fine silver wire; as there was little lateral force this did not require to be very strong. The wound was then closed, and dressed with a full Lister's dressing. The operation lasted 14 hours.

* Mr. Lister advised $\frac{1}{16}$ in diameter, but I found $\frac{1}{32}$ even quite successfully.

On recovery from the ether the patient was in great pain and although $\frac{1}{4}$ gr. of morphine was given every two hours, he rested but little during the night. November 28th, T. 100.5, P. 95, R. 30, the dressings being soiled by oozings from the wound were changed under the spray. The pain continued without any cessation until December 4th, during this time the temperature ranged between 101.8 and 97.8, so that day the pain suddenly ceased, and as the bandage was slightly stained it was again changed under the spray; it was found that the wire had drawn through the upper fragment and the separation was as wide as before the operation. The discharge on the dressing was very slight, all from the wound over the patella, none from the drainage tube. After this the pain was never very severe, easily controlled by moderate doses of morphine. The dressings were removed and re-applied twice during the succeeding ten days, at the second dressing the wound was found open and filled with granulations. On the 15th, 17 days after the operation, I removed the wires, and the drainage tube. After this there was no especial change until December 28th, when he had a chill followed by T. 101.3. On the next day, the leg was again dressed, and an abscess, the size of a walnut, was found just underneath the skin, to the inside of the patella, not communicating with the joint. This was evacuated, washed out thoroughly with 5% solution of carbolic acid, and it immediately closed; there was then nothing but the external wound to dress, as the Lister's bandage was removed and bismuth applied. On March 10th, this was cauterized and the wound strapped. On May 12th, a silicate of soda spirit reinforced with plasterboard at the sides was applied, and on drying, the patient was allowed to walk. This he did and still does without much difficulty, but the movements of the joint are very restricted.

In the address above mentioned Sir Joseph advocated the operation "in all cases where the surgeon can feel himself morally certain that he can secure asepsis." I do not regard the unsuccessful termination of this case to any failure in the asepsis. The separation did not occur until some time after the operation, as such, had failed; it never was sufficient to cause any anxiety; neither was the joint ever involved in the suppuration; although freely opened at the operation it still has restful and presumably articular surfaces. The hindrances to success were confined to the patella, the tendon within which it lies, and the surrounding fibrous structures, and show in contradiction to Mr. Lister's statement that there are cases in which the operation should not be performed. The statement is very broad; it includes all cases of both recent and old ununited fractures, though he prefers those that are recent as presenting fewer obstacles to success! Very true! So would any surgeon prefer to treat a recent rather than an old fracture of any bone. The cases are not parallel; a comparison cannot be made with justice, they must be considered separately.

I do not care at present to say much about the recent class. But it is well to bear in mind that even here there have been death (Bull), amputation of the thigh (Wyeth) and several instances of ankylosis of the joint. (Bell, Eliot, Schuch, (2), Koenig, Smith, and others), all resulting directly from the operative interference; a statement which cannot be justly charged to any other method of treatment. The nearest approach to this has been a few cases of erysipelas, and of suppuration following the use of Malgaigne's hooks, but passing through the many years since their invention, and this it must be remembered, antedates by almost a century, the methods of antiseptic surgery. Punctured with the advantages offered by these methods, the risks from Malgaigne's hooks become negligible, and should render the operation of opening the joint for the purpose of wiring the smoothly broken fragments together with its practically inevitable attendant dangers, a matter of very serious consideration in every case. It is certainly not to be universally accepted, as we are led to believe from the statements of its advocates, that the surgeon can make it an operation of no danger. How far Van der Meulen's method* of leaving intact the meniscus posterior to (or underneath) the broken bone, thus avoiding opening into the joint, is to be found possible, remains for the present a subject for justifiable experimentation in selected cases.

It is to the treatment of old fractures, the fragments of which are joined with but an unreliable or quite useless fibrous bond, that I regard this operation favorably, as offering a chance for restoring to usefulness a limb which is little more than a burden.

I have been able to get more or less full accounts of thirty-five cases of old ununited fractures of the patella, with very unsatisfactory use of the limb, or of recent refractures which have been treated by cutting down upon the bone, freshening the surfaces, and wiring the fragments together under antiseptic precautions. Most of these are taken from Mr. Turner's tablet read at the meeting of the Medical Society of London, when Mr. Lister's address was discussed, others are referred to by Dr. Wyeth; in reporting his case accompanying amputation after wiring a recent fracture; others are individual reports as follows, viz.:

* *Lancet*, January, 1864.

† *Lancet*, Nov. 15, 1862.

‡ *Med. Record*, N. Y., June 2, 1882.

CASES OF UNSUITED FRACTURES OF PATELLA TREATED BY WIRING ANTISEPTICALLY.

Author.	Reference.	No. of Cases.	Result.	Remarks.
Liter.,	Lancet, Nov. 3, 1883.	2	Cured.	1 could not kneel.
Ball,	Turner, Lancet, Nov. 17, 1883.	4	1 ankylosed, 2 cured.	1 suppurative due to bleeding into joint after division of quadriceps tendon.
Harris,	Turner, I. C.	4	2 ankylosed, 2 cured, 1 slight ankylosis.	Subject syphilitic; no suppuration.
Johnson Smith,	Turner, I. C.	4	2 ankylosed.	Suppuration of joint.
Wood,	Turner, I. C., Chap. 826.	4	2 died, 1 slight ankylosis, 2 cured.	Could not bring fragments together; quadriceps and aponeurosis divided; death from septicemia in two weeks.
Caletka,	Turner, I. C.	4	Cured.	Tendon ligamentous.
Bryant,	Turner, I. C.	4	2 ankylosed.	Joint stiff.
Heldenthal,	Turner, I. C.	7	Cured.	
Hansen,	Turner, I. C., also 89 Gen. Hosp. Rep. X. 440.	7	Ankylosed.	Suppuration in joint.
Schreyer,	Turner, I. C., also Lancet, Aug. 11, 1888.	3	Ankylosed.	Quadriceps tendon and rectus muscle both divided; latter 2 inches above patella.

Lloyd.....	Turner, J. C.....	1	Slight motion, 1 inch separation.....	Quadriceps tendon and ligamentum patellæ both divided and lateral incisions in aponeurosis of each.
MacComac.....	Turner, J. C.....	1	Died.....	Quadriceps divided, thigh amputated, and death from pyæmia.
Moss.....	Turner, J. C.....	1	Amputation, condition same as before operation.	Could not bring fragments together, quadriceps not divided.
Parker.....	Turner, J. C.....	1	Cured.	
Pentecost.....	Turner, J. C.....	1	Slight motion.....	Fluorid union at three months, patient won leg in case.
Pye.....	Turner, J. C.....	1	Ankylosis.....	Suppuration in joint.
Henry Smith.....	Turner, J. C.....	1	Cured.....	Quadriceps tendon divided.
Turner.....	J. C.....	1	Ankylosis.....	Suppuration in joint.
Wald.....	Garrod, Dec. 22, 1884.....	1	Slight motion.....	Adhesions about joint.
Tweeddale.....	Wyeth, M. H., Jan. 1, 1885.....	1	Cured.....	Full report in <i>Verhandl. der Gesellschaft d. Chirurgen</i> Vol. VII, p. 153.
Clark.....	Wyeth, J. V., also Drach, Med. Wochenschr., April 17, 1885.....	1	Cured.	
Bell.....	Wyeth, J. V.....	1	Died.....	Exclamation from separation of joint, etc.

CASES OF UNUNITED FRACTURES OF PATELLA TREATED BY WIRING ANTISEPTICALLY.—Continued.

Operation.	Date.	No. of Cases.	Result.	Remarks.
Wheeler,	Jan. 10, 1884,	1	Cured,	Quadriceps tendon divided, wires pulled through bone twice, removed and Malgaigne's body substituted (about 11" in length).
Mason,	Jan. 12, 1883,	1	Cured,	Quadriceps tendon divided, but fragments could not be brought together until a series of deep oil injections in the muscle were made as follows: These closed when the patella was drawn upon.
Carroll,	1	Imperfect recovery,	Wires pulled through bone, division of quadriceps tendon simultaneously, open field suppuration.

Of these 35 cases, 3 (8%) died, 7 (20%) had suppuration of the joint and subsequent ankylosis; in 9 (26%) there was no improvement from the operative interference, and 18 (48%) were cured. This certainly does not confirm Lister's view of the safety of the operation, and in the 34% of failures (for in an operation undertaken to improve the condition of a part, "no improvement," is failure) there were several where a septic condition of the wound or joint could not be claimed to be the reason of this result.

Some of these were unquestionably due to conditions intrinsic to the injury, or to its after-treatment preceding the operation, such as adhesions of the quadriceps tendon and aponeurosis to the underlying and adjacent parts (Henry Smith, Salway Jones, Wood, Bell, Carnall). Shortening of the quadriceps (or rectus) muscle with more or less atrophy, (Macdonald, Moulton, Lloyd) atrophy of the fragments and consecutive following of the osseous tissue (Wheelhouse, Carnall).

That the division of the quadriceps tendon is not unattended with danger is shown in the table, where of ten cases of division of this tendon, two died of pyæmia, in two there was suppuration of the joint followed by ankylosis, in three more the result was unsatisfactory, *i. e.*, 20% of deaths and 50% of failures; while in the remaining 25 cases, in which from the absence of a statement as to a division of this tendon, it may be presumed that it was not done, one died from exhaustion from suppuration of the joint, five had ankylosis following suppuration, in six the operation was not followed by improvement, or 4% of deaths and 48% of failures.

It appears to me from the consideration of this number of cases representing quite a diversity of conditions at the time of operating, that although the operation itself under strict antiseptic precautions, offers us undoubtedly a valuable contribution to operative surgery, it is not to be accepted as universally applicable to all cases of even ununited fractures alone; that there are cases in which it is hopeless for us to undertake it, and we are not justified in subjecting the patient to its risks; that amputation and an artificial limb, or some mechanical appliance should be recommended instead. I am inclined to think from the experience the profession has so far gained, that we must restrict this operation to cases which permit considerable mobility of the upper fragment, and allow it to be approximated to the lower one, but in which after waiting a reasonable time, osseous (a firm) union does not take place. In these cases it may be fairly assumed, that adhesions to the parts beneath do not exist, or may be readily broken without extensive division of the tendon, and the operation may be performed with a reasonable prospect of success without unduly risking the patient's life.

It is more than probable, in my mind, that in many instances, in the attempts to bring the fragments together by apparatus and appliances,

which exert a good deal of pressure upon the upper fragment, inflammation with consequent adhesion to the parts beneath is excited. It becomes, therefore, a question with regard to one early treatment of these cases, how far and how long we are justified in carrying out attempts to bring the fragments together, in view of the fact that we may thereby be depriving ourselves of a more certain method of cure afterwards in the operation under discussion.

A CASE OF LITHOLAPAXY.

George B., aged 42 (looks 45), a hunter, was admitted to the hospital on April 16, 1883, with the statement that three months previously, after having suffered for two or three years with symptoms of vesical irritation and occasional retention of urine, that Dr. L. M. Gilbert of this city had removed from the anterior portion of the urethra, directly at the navicular fossa, an irregularly almond-shaped calculus, with very considerable relief to his suffering. This did not, however, continue, and he applied to the hospital for treatment. A Swega body, presumably a stone, was readily detected, and on the 19th he was put under ether and, after crushing with a Bigelow's litholite, the fragments were removed through the straight evacuating catheter, using Bigelow's second form of evacuator. The crushing was done twice, and, after the second evacuation, no fragments could be detected by the sound. The operation lasted 20 minutes. After filtering and drying, the fragments weighed 35 grains.

The patient had no untoward symptoms afterwards; indeed it was with difficulty that he was persuaded to stay in bed the next day, insisting that he was quite well. No fragments were passed, nor did he have any irritation at the neck of the bladder, as I expected, for I experienced an embarrassment in the manipulation of the evacuating catheter that is not mentioned by the author of the operation, nor do I remember to have seen alluded to by its critics. I found, in removing the catheter after the first crushing, when it became evident that there were one or more fragments too large to pass through it, that one of them became impacted in the eye of the catheter by the action of the evacuating bag, and that there was great danger that the neck of the bladder might be lacerated in attempts at withdrawal. This laceration can readily happen, as from the necessarily large size of the catheter the canal hugs it tightly, and one cannot, without considerable experience (and practice on the calaver by no means gives the same feeling of resistance that the actual operation affords) feel sure that the eye is free, and when the mucous membrane is thus on the stretch, a slight nick from a sharp angle of a fragment of stone may make a considerable laceration. If once occasionally or frequently drawn into the canal, the urethra may be torn its whole length. I would therefore suggest that

the nitrate (at least) should, in order to escape this accident, first reverse the position of the eye of the catheter in the bladder, directing it downwards, and then make a slight and somewhat sudden pressure upon the evacuating bag, thus forcing the eye free whatever may be caught there, and allowing the fragment to fall into the lowest part of the bladder away from the orifice. The tube may then be withdrawn, either thus reversed or in the usual position, the lithotrite again introduced, and the crushing repeated.

ORTHOCENTRIC OSTEOPLASTY FOR VICIOUS ANKYLOSIS OF THE JOINT.
 CASE. PATIENT PRESENTED TO SOCIETY.

R. S., 7 years of age, was admitted a second time to the hospital, on Aug. 29, 1883. She had been a patient during the previous summer, admitted on May 23, 1883, for the same deformity, and I had then attempted to overcome it by Adams' operation of dividing the neck of the femur, using however, a Macswen's chisel. Although I think I divided the neck, and at the operation obtained a considerable correction of the deformity, owing to the very considerable deposition of osseous and fibrous material about the acetabulum and head of the femur, and the great mobility of the spinal column, I was unsuccessful in preserving the extension necessary for the permanent correction of the deformity; the limb returned to its former position, and the joint became as fixed as before the operation. I therefore determined to make the division below the trochanters, but sent the patient home to recuperate from the effect of the confinement before operating again. On readmission, the right thigh was invariably fixed at a right angle to the axis of the vertebral column; the distance from the heel to the knee when the latter was erect, and the patient stood upon the left leg, was 10 inches, being just the length of the femur from the apex of the trochanter major to the extreme end of the external condyle (see fig. 1), while at the greatest extension the child could give by curving the spinal column, the toes of the right foot rested upon the left instep (see fig. 2).

On Sept. 25th, the femur was divided by a single incision just below the trochanters, the line of incision being nearly transverse to its axis. I used a Macswen's osteotomy chisel, and supported the leg during the operation upon sand bags. Strict listeria was observed throughout the operation, and in the bandage afterwards applied. The tendon of the gracilis muscle, and some fibrous contractions of the fascia lata near the anterior superior spinous process of the ilium, were divided. The leg and vertebral column were then brought into a nearly straight line, and a plaster of Paris bandage, extending from just below the axilla, down and around each leg to the ankles; the right leg was slightly abducted and everted. The plaster bandage was reinforced by an iron bar, bent into a shape to conform to the normal curvature of the back

and the abducted position of the leg, extending from between the shoulders to the popliteal space. This was shaped previously and used to secure greater security during the application of and setting of the plaster bandage than would be otherwise practicable.

After recovery from the ether the patient was comfortable, and the temperature never reached 100° F., passing very nearly a normal course. The only uncomfortable conditions were those incident to the confined position in which she was kept. She was quite unable to make water, necessitating passing the catheter, and the bowels were very torpid.

In about three weeks the plaster was cut away from the left leg and some movement in bed allowed. On Nov. 22d all bandages were removed and the child allowed to go about on crutches, which she did readily. In the course of a couple of weeks more she was given a shoe with a cork sole 1 inch high, with which she walks with a scarce perceptible limp. The exact amount of shortening being $1\frac{1}{2}$ inches (see fig. 3.)

The patient was shown at the meeting of the State Society, having walked up two long flights of stairs without taking hold of anything with her hands, putting her feet alternately on each succeeding step, as one ordinarily does. In sitting down she is obliged to sit on an edge of the seat, either the front or the right side. She can stoop to touch the ground, but cannot bring her shoe off that foot. I think the position a little too straight for the most usefulness, it would be better if it were at an angle of about 25° from a vertical with the spine.

I prefer this, Gard's, operation to Adams', as the incisions require much less laceration of surrounding parts, and where there has been much inflammation with absorption of the head and neck of the femur, and, perhaps, dissection upon the decuss of the ilium, the relations of parts are disturbed, the leg is then shorter anyhow, and nothing is gained by the more tedious operation. The division of the shaft as practiced offered no serious difficulty.



OBITUARIES.

ARETAS RISING, M.D., SUFFIELD.

By JAMES K. MASON, M.D., SUFFIELD.

Dr. Aretas Rising, third son of Nathaniel and Lydia Rising, Jr., was born in Suffield December 15, 1861, and died here March 27, 1884. He was of English descent, and his ancestors were among the first settlers of the town. His father was a farmer in moderate circumstances, and having a large family of eight children, could render but little assistance to his sons in the way of education, two of whom were ambitious in the pursuit of knowledge, and had resolved to prepare themselves for the medical profession. The subject of this sketch was, therefore, obliged to content himself with such advantages as the public schools of the town afforded, supplementing them later on by the study of Latin under the tuition of Rev. Ebenezer Gay, Jr., pastor of Congregational Church of this town, and Rev. Dr. Cooley of Granville, Mass. In this latter town he was engaged for a time in teaching, and facilities for travel not being great in those days, he was accustomed to walk back and forth from his home, as he did frequently, from Pittsfield, Mass., during his lecture courses. In these long and tedious journeys, over intervening mountains and through the snows of winter, doubtless his long legs, like Lincoln's, did him good service.

He studied medicine in the office of Dr. DeLamar, at that time a distinguished practitioner of Sheffield, Mass. Graduated at the Berkshire Medical School in 1826, and soon after commenced practice in the village of Elletts, N. Y. Here he remained two years, and then removed to the town of New Marlboro', Mass., buying out the practice of another physician. In this town he continued to reside till 1849, laying the foundation of a successful practice. Here also he married, November 12, 1829, Miss Lucy M., daughter of Basil Seymour, Esq., of Otis, Mass.,

who was at that time teacher of a private school at New Marlboro', and with whom he lived in happy wedlock more than fifty years, celebrating his golden wedding here in his native town, November 12, 1879. Mrs. Rising was a lady of noble lineage, being a descendant of the Connecticut Trumbulls. She preceded her husband to the Spirit Land about two years ago. From New Marlboro', he removed to Sheffield, Mass., the scene of medical studies, and practiced there about five years till 1843, when he returned to this place, and continued in the active practice of his profession here till 1871, a period of twenty-six years, when his advanced age and impaired eyesight compelled him to lay aside forever his armor, in which he had battled so long and so nobly with disease and death.

During the subsequent early years of his retirement, and after a brief sojourn in Brooklyn and Hartford, his tall and erect form was daily seen upon our streets, as with tottering limbs and careful tread he walked to and from the post-office. But during the last few years of his life, his almost total blindness confined him mostly to the house, and he went to reside with his son-in-law, about one mile west of the Center. Occasionally, however, his great experience and rare judgment—retained to the last—caused him to be called in consultation in difficult cases among his old patrons; and he was often seen at the Congregational Church, of which he became a member late in life, and to the support of which he was always a large and cheerful giver. He was also a director in our national bank, and contrary to the wishes of most physicians, had amassed a considerable fortune. In 1850, he was elected a Fellow of the Connecticut Medical Society, and had earnestly represented the towns of New Marlboro' and Sheffield in the Legislatures of their respective States.

In the practice of his profession in this town, he had become well and favorably known to most of the physicians in Hartford County, not a few of whom, particularly among the older members, have expressed to the writer their high appreciation of his character and attainments. Being often associated with him during the last decade of his practice and the first of my own, there being at the time no other physician in this part of the town (Center), I had frequent occasion to test his experience and medical knowledge, as well as opportunities for observing the results of his judgment and skill. He was very ready and apt in the citation of his

cases, many of which, in the earlier years of his practice, had made an indelible impression on his mind. He was particularly proud of his preceptor, Dr. DeLamater, and often quoted and endorsed his opinions. He had a quick and accurate perception of the condition of his patient, was careful and judicious in the selection of remedies, which with him were few, tried, and trusty; was persevering and thorough in their use, and never in haste to pronounce his patient cured or moribund; but when perchance a suspicion of danger did escape his lips, every one who heard it felt that his patient's condition was not only indeed critical, but critical indeed, so guarded and sterning was his prognosis known to be. Well read and well-tried in every branch of his profession, he was particularly so in midwifery; and although extensively engaged in this throughout his entire practice covering a period of almost half a century, he has been heard to say that only one patient of his ever required a suture for a rupture of the perineum, and that only partial! When it is remembered that he rarely—almost never—recorted to the use of instruments, what a testimonial is this to the wise and perfect adaptation of Divine Nature's means to ends, as contrasted with those of the more modern and operative accoucheur! Not that we would disparage the use of instruments—he did not—but only their frequent, indiscriminate, unnecessary, and, therefore, improper use. But we are digressing.

As a citizen in private life, he commanded the respect and easily won the confidence of all with whom he came in contact. Grate and dignified in his demeanor, kind and courteous in his manners, no one ever doubted that he would do what he could for the relief of suffering humanity, whether among the rich or the poor. Too fully occupied to mingle much in political or town affairs, he was nevertheless a keen and intelligent observer of passing events at home and abroad, and took a lively interest in the men and measures of his approval, though bold and independent in his denunciation of craft and wickedness. He was a thoroughly good, honest, and upright man, having a high sense of the dignity and responsibility of his profession, which his own life did so much to elevate and adorn in the eyes of the community. He discriminated quackery in every form, and always refused to consult with charlatans, being strict in his observance of the Code of Ethics in all his intercourse with his professional brethren. Hence, his relations with them were always pleasant and friendly,

and he was borne to the grave by all the regular physicians of the town, and laid away to rest, as a war-worn and scarred veteran, whose life had been full of years, and whose years had been full of honor and usefulness. Three children survive him. Henry S. Ring of Wyosung, Iowa, Eliza M., wife of John A. Henshaw of Suffolk, and Frances C., wife of J. R. Sheldon of Hamburg, New Jersey.

ELISHAMA BRANDEGEE, M.D., BERLIN.

By E. B. LYON, M.D., OF NEW BRITAIN.

Dr. Brandegee was born in Berlin, Conn., January 14, 1814, and died February 17, 1884, of cerebral apoplexy.

He attended school in Cheshire, and was fitted for college at Mount Simcon, Hart's School in Farmington, and entered Yale at fourteen years of age, graduating in 1837. After reading law one year in New Haven he decided to take up medicine and was graduated by the medical department of Yale, and pursued his studies another year under Dr. Tully of Castleton, Vt.

For two years he practiced in St. Louis, when, on account of the failing health of his father, he returned to Berlin, and practiced medicine among the people of his native town for forty-three years.

In his profession he held the confidence and patronage of the people, never betraying the one or missing the other. His ability and skill, his genial manners and high sense of professional honor won for his professional brethren their respect and love. He was quiet and unobtrusive in his ways, but he took a real and helpful interest in whatever tended to promote the morals or the prosperity of the town in which he lived. There were but few families within several miles of his residence who had not welcomed him as a kind, sympathizing, unselfish friend, as well as a physician. Few men could be missed more than he, for few, if any, had been larger or better known or more respected and beloved. Those who knew him best loved him most, so is his home and with his family he shone the brightest.

In 1842 he married Miss Florence Smith of Petersburg, Va., who survives him, and of his twelve children nine are still living, and

seven were at his bedside at his death. During the few weeks of his illness he was cheerful. His home was a pleasant resort for his family. Reciprocal acts of attention and affection characterized all their relations, and were intensified in the last weeks of his illness.

Through a kind Providence he was enabled, a short time before his death, to transmit his inheritance in a large estate to his family, but the richest heritage is the recovery of such a husband and father vouchsafed to them so long.

His funeral was largely attended, Dr. Woodworth, pastor of the Congregational Church of which he had been a constant member many years, officiating, his six sons continuing their offices of ministry by bearing his body to the tomb.

JAMES BALDWIN, M.D., DANBURY.

By A. E. ADAMS, M.D., DANBURY.

James Baldwin, son of Gabriel and Sarah Baldwin, was born at Easton, Conn., in the year 1802. Early in life it was his desire to become a member of the medical profession; with this end in view he worked early and late, and in the year 1825 graduated from the Yale medical school. He first commenced practice in Easton, Conn., but after a short time removed to Stratford, Conn., where he could have a larger field for practice. In 1839 he married Corcoran, daughter of William Hawley of Bridgeport. Soon after his marriage he came to Danbury where he found a wide field, and a community which appreciated his talents. As a practitioner he was skillful and successful, and for forty years he treated the sick, attending the poor with as much care and patience as he would the richest. In 1861 the doctor gave up his practice to work in a field closely allied to the one he was leaving. Knowing the importance of using pure drugs, and at the same time the difficulty of obtaining them, he opened a drug-store, where he sold as pure drugs as the market afforded. He soon won the confidence of the profession and laity, and gained for himself an enviable reputation, a good income, and a happy home, where he died at the advanced age of eighty-one years, respected and mourned by a large circle of patrons and admirers.

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GROTHENDIG, A. A. Luzzar.
East Woodstock, Frank N. Olin.
West Woodstock, A. S. Leonard.
WINDHAM, Capor Bartlow.
WILLIAMSBURG, Fred. Rogers, T. Har-
ison Hills, O. B. Gliggs,* C. J.
Fox, Parmen D. Russell, John
Conant, T. R. Parker. —38

LITCHFIELD COUNTY.

WILLIS J. BEACH, M.D., of Litchfield, President.

ORLANDO BROWN, M.D., of Washington, Vice President.

J. J. NEWTON, M.D., of Litchfield, Clerk.

Committee—J. W. BIRNELL, M.D., WM. DENING, M.D., ORLANDO BROWN, M.D.

County Reporter—J. B. NORTH, M.D., Goshen.

LITCHFIELD, H. W. BUEL,* H. E.
Gates, W. J. Beach, J. J. New-
comb, C. O. Bellin, T. M. Mac-
well, Wm. Dening.
SOUTHFIELD, C. L. Blake.
CANAN, C. W. Camp.
West Cornwall, Edward Sanford,
C. S. Brown.
Gaylesville, Charles F. Vauk.
BOHNS, J. H. North.
HARTINGTON, Terryville, W. S.
Swell.
New Hartington, Jerry Russell.
NORFOLK, Wm. W. Welch,* J. B.
Stevens.
THOMASTON, Wm. Woodruff,* Ralph
S. Goodwin.

BOHNS, Myron Davis,* W. B.
Brinsley.
LANTYLLER, W. Hassell, H. P.
Knight.
SHARON, William W. Knight.
THORNTON, Wm. L. Platt.
WOLSTEVILLE, T. S. Harcllett, L. H.
Wood.
WARRICK, John B. Derickson.
WASHINGTON, Orlando Brown.
New Freedom, R. A. Harty.
WASHINGTON, W. S. Manger, Eugene
C. French.
WASHINGTON, West Windsor, James
Welch,* John W. Ebbwell.
WOODSTOCK, Harmon W. Shaw, L.
G. Kelcham. —39

MIDDLESEX COUNTY

SYLVESTER W. TURNER, M.D., of Chester, President.

J. FRANK CALFE, M.D., of Chesham, Clerk.

COUNCIL—S. W. TURNER, M.D., GEO. W. BISHOP, M.D., E. B. NICH, M.D.

County Agents—R. W. MATHESON, M.D., of Durham.

MATHESON, ELISHA B. NYE.

Geo. W. Binks,* Rufus Baker,*

P. D. Edgerly, Abraham M.

Shaw, Jos. W. Altop, Jr., Daniel

A. Cleveland, John Morgan, Jos.

Hendrick, Wm. E. Fisher, C. E.

Stanley, P. V. Barnett, J. N. Ken-

nedy, H. B. Noble.

CROFTON, WILHELM HALLAM, Agent.

H. Worthington.*

East Hampton, Albert Field.

CHESHAM, SYLVESTER W. TURNER.*

CHESHAM, WILKING B. HALLAM.

J. Frank Calfe.

DURHAM, R. W. Matheson.*

Keweenaw, Alanson A. Dought,* Charles

H. Dought.*

HARRIS, MIAM C. HARRIS, Sidney

C. Noyes.

MORRIS, Wallace M. Knowlton.

Old Saybrook, J. H. Stratton.

POTOMAC, C. A. Scott, Cornelius

E. Harrison.

SAYBROOK, Deep River, Edwin Bal-

well.*

WATERBURY, G. C. H. Gilbert,* T.

B. Woodfield. —22

TOLLAND COUNTY.

F. J. DICKINSON, M.D., of Rockville, President.

WILLIAM H. CLARK, M.D., of Tolland, Clerk.

COUNCIL—C. F. SUMNER, M.D., E. P. FINEY, M.D., F. L. SWIN, M.D.

County Agents—S. G. BUCKY, M.D.

TOLLAND, William H. Clark.

BARNES, CHAS. F. SUMNER.*

South Coventry, Henry S. Hunt, E.

P. Flint.

EASTBURY, J. A. Warren.

MANTON, F. B. Johnson.

SAYBROOK, Wm. N. Clark.*

Stafford Springs, C. B. Newman, F.

L. Smith.

EAST, Wm. Howard.

VANDER, Vernon Depot, A. B.

GOODRICH.*

Rockville, Stephen G. Bucky,* Fran-

cis L. Dickinson,* Frederick Gil-

bert, E. W. Leonard, T. M. Rich-

ard.

WATERBURY, Wm. L. Kelley. —23

*Over state years of age.

ALPHABETICAL LIST

OF 1945

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY,

With Date and Place of Graduation, and Postoffice Address

<i>Name</i>	<i>Place and Date of Graduation</i>	<i>P. O. Address</i>
Albion, Augustus H.	Yale, 1864	Bridgeport
Albion, A. E.	Albany, 1881	Hartford
Adams, A. E.	Col. Phys. and Surg., 1880	Danbury
Allen, Charles N.	Burlington, 1861	Housatonic
Allen, H. C.	Yale, N. Y., 1879	Broadbrook
Allen, H. H.	Univ. N. Y., 1829	Milford
Alting, W. G.	Yale, 1829	New Haven
Almy, L. R.	Bellvue, N. Y., 1878	Norwich
Almy, J. W., Jr.	Univ. N. Y., 1864	Middletown
Alton, C. D.	Bellvue, 1878	Hartford
Alvares, C. H.	Col. Phys. and Surg., 1871	Wallingford
Andrews, Wm. H.	Bellvue, N. Y., 1873	Milford
Andrews, Wm. H.	Univ. N. Y., 1862	Brookfield
Arny, Geo. W.	Yale, 1881	Hartford
Axtell, J. P.	L. J. Hosp. Coll., 1877	Hartford
Ayres, W. O.	Yale, 1834	New Haven
Bacon, Francis	Fall, 1853	New Haven
Bacon, Wm. T.	Univ. N. Y., 1921	Hartford
Baker, Rufus	Columbia Coll. D. C., 1841	Middlesex
Baker, Scott R.	Yale, 1879	Albany
Baldwin, Chas. T.	Bell. Med. Coll. N. Y., 1885	RivINGTON
Baldwin, N. C.	Yale, 1867	South Britain
Banks, Sebastian	Yale, 1844	Wallingford
Barker, W. L.	Bellvue, 1873	Watertown
Barlow, H. P.	Dartmouth, N. H., 1870	Easton
Barber, A. E.	Barbours, Mass., 1874	Bethel
Barker, J. W.	Yale, 1861	Westville
Barnes, Lewis	Univ. Buffalo, N. Y., 1871	Oxford
Barnett, J. F.	Yale, 1868	New Haven
Barnes, F. N.	Victoria, Montreal, 1866	Putnam
Barnes, J. W.	Yale, 1841	Hartford
Barnes, Eugene	Burlington, Vt., 1878	Windsor
Bartlett, W. B.	Yale, 1871	New Haven
Beach, W. J.	Col. Phys. and Surg., 1867	Leitchfield

Name	Place and Date of Graduation	P.O. address
Bardley, A.	Berkshire, 1854.	Birmingham
Bardley, E. H.	Yale, 1845.	Monroe.
Bardley, G. L.	Bellevue, N. Y., 1871.	Birmingham
Barkwith, F. E.	Coll. Phys. and Surg., 1871.	New Haven
Barkwith, F. J.	Harvard, 1861.	New London
Bell, C. O.	Coll. Phys. and Surg., 1880.	Litchfield.
Bell, Newton S.	Burlington, Vt., 1864.	Wadsworth.
Bell, P.	Yale, 1872.	New Haven.
Bennett, Geo. W.	Coll. Phys. and Surg., 1878.	Norwalk.
Bennett, J. M.	Yale, N. Y., 1882.	Waterbury.
Bennett, P. O.	Berkshire, 1859.	Windsorville.
Bennett, M. D.	Berkshire, 1862.	Bridgeport.
Bennett, W. C.	Coll. Phys. and Surg., 1868.	Bridgeport.
Berry, J. J.	Yale, N. Y., 1878.	South Norwalk.
Bidwell, Edwin.	Yale, 1847.	Deep River.
Bidwell, John W.	Berkshire, 1846.	West Windsor.
Bill, Curtis H.	Yale, N. Y., 1859.	Bridgeport.
Bishop, T. H.	Yale, 1828.	New Haven.
Bishop, T. H.	Yale, 1860.	New Haven.
Bisell, E. L.	Yale, 1860.	New Haven.
Bisell, William.	Yale, 1856.	Lakewood.
Blake, C. L.	Yale, 1875.	Norfolk.
Blackfield, T. B.	Coll. Phys. and Surg., 1876.	Windsor.
Blackman, H. L.	Yale, N. Y., 1874.	Boston.
Black, Geo. B.	Yale, 1856.	Windsor.
Borron, W. C.	Coll. Phys. and Surg., 1877.	Bridgeport.
Boschen, H. M.	Coll. Phys. and Surg., 1877.	Bridgeport.
Bosch, E. T.	L. B. C. B. Philadelphia, 1879.	Thompson.
Bosch, W. L.	Coll. Phys. and Surg., 1877.	Meriden.
Boss, James D.	Yale, 1884.	New Haven.
Boswell, E. N.	Albany, 1867.	Bridgeport.
Boswell, Charles N.	Bellevue, 1860.	New London.
Boswell, E. F.	Coll. Phys. and Surg., 1871.	Stonington.
Boswell, W. H.	Dartmouth, 1878.	Norwich.
Boswell, David T.	Yale, 1867.	Rocky.
Boswell, Henry.	Yale, 1877.	Hartford.
Boswell, C. S.	Coll. Phys. and Surg., 1868.	New Haven.
Boswell, Francis W.	Yale, N. Y., 1877.	West Cornwall.
Boswell, Delia.	Yale, 1851.	Windsor.
Boswell, W. T.	Harvard, 1861.	Windsor.
Boswell, Wm. O.	Coll. Phys. and Surg., 1866.	New Canaan.
Boswell, Henry W.	Coll. Phys. and Surg., 1877.	Litchfield.
Boswell, Virgil.	L. I. Coll. Hosp., 1871.	Hartford.
Boswell, L. P.	Coll. Phys. and Surg., 1860.	Windsorville.
Boswell, J. N.	Coll. Phys. and Surg., 1878.	Plainville.
Boswell, H. C.	Yale, 1824.	Gloucester.
Boswell, W. H.	Coll. Phys. and Surg., 1878.	Bridgeport.
Boswell, Wm. M.	Georgetown, D. C., 1860.	Uxbridge.
Boswell, Geo. W.	Yale, 1861.	Madison.
Boswell, Wm. P., Jr.	L. I. Coll. Hosp., 1875.	South Norwalk.
Boswell, N. E.	Coll. Phys. and Surg., 1867.	Windsor Locks.
Boswell, P. V.	Yale, N. Y., 1858.	Madison.
Boswell, A. B.	Yale, 1822.	Southbury.
Boswell, Jerry.	Berkshire, 1824.	New Hartford.
Boswell, Geo. M.	Yale, 1862.	New Haven.
Boswell, John S.	Jefferson, Pa., 1828.	Hartford.

Name	Place and Date of Graduation	P. O. Address
Colef, J. P.	Yale, 1880.	Croftwell
Camp, C. W.	Univ. N. Y., 1854.	Canaan
Campbell, Jas. Jr.	Univ. Vermont, 1871.	Hartford
Casson, F. M.	Univ. N. Y., 1867.	Waterbury
Carlson, Charles M.	Hartford, 1863.	Norwalk
Carnault, W. H.	Coll. Phys. and Surg., 1861.	New Haven
Carrington, Charles	Coll. Phys. and Surg., 1864.	Farmington
Carrington, Henry A.	Hartford, 1848.	New Haven
Casady, Patrick	Univ. Vermont.	Norwalk
Castle, H. E.	Yale, 1879.	Waterbury
Chamberlain, C. W.	Coll. Phys. and Surg., 1871.	Hartford
Chamberlain, M. N.	Yale, 1866.	Cheshire
Chapin, F. W.	Univ. N. Y., 1862.	Naugatuck
Chambers, A. F.	Coll. Phys. and Surg., 1864.	Mytic
Chapman, A. W.	Coll. Phys. and Surg., 1869.	New Haven
Child, E. H.	Univ. N. Y., 1872.	Meriden
Childs, Seth L.	Woodstock, Vt., 1865.	East Hartford
Churchill, Am. H.	Yale, 1867.	Meriden
Clarke, E. C.	Univ. Vermont, 1869.	Norwalk
Clark, F. P.	Coll. Phys. and Surg., 1876.	Danbury
Clark, William H.	Univ. N. Y., 1862.	Tolland
Clark, Wm. N.	Yale, 1869.	Salford
Clason, A. F.	Univ. N. Y., 1873.	Danbury
Clary, George	Yale, 1867.	New Britain
Cleveland, D. A.	Bowling, Me., 1858.	Middleboro
Coates, E. P.	Yale, 1863.	Mytic Bridge
Coates, Frank A.	Coll. Phys. and Surg., 1873.	Mytic Bridge
Coxwell, W. B.	Bellows, 1861.	Stratford
Coburn, H. J.	Univ. N. Y., 1865.	New Britain
Codrings, B. N.	Castleton, Vt., 1844.	New Britain
Coggan, Joseph A.	Bellows, N. Y., 1876.	Hartford
Cornwall, E. T.	Coll. Phys. and Surg., 1861.	Cheshire
Cotton, John	Harvard	Williamantic
Couch, Charles F.	Berkshire, 1864.	Gaylordsville
Covey, David	Castleton, 1854.	Hartford
Crary, David Jr.	Yale, 1868.	Hartford
Crowley, L. M.	Univ. N. Y., 1861.	New Britain
Crozier, M. A.	Coll. Phys. and Surg., 1874.	New Haven
Crow, Noah	Berkshire, 1862.	Hartford
Crosfield, F. S.	Bellows, 1878.	Hartford
Cuthbert, T. D.	Albany, 1865.	Hartford
Cummings, Jas. R.	Coll. Phys. and Surg., 1862.	Bridgeport
Cummings, Willie	Univ. N. Y., 1862.	New Canaan
Daggett, David L.	Yale, 1866.	New Haven
Dalling, A. E.	Harvard, 1871.	Killingly
Davis, C. H. S.	Univ. N. Y., 1865.	Meriden
Davis, E. H.	Burlington, N. J., 1870.	Central Village
Davis, G. P.	Coll. Phys. and Surg., 1869.	Hartford
Davis, H.	Yale, 1864.	Wallingford
Davison, L. A.	Univ. N. Y., 1862.	Hartford
Day, L. T.	Yale, 1860.	Westport
DeForest, W. A.	Univ. N. Y., 1869.	Bridgeport
DeForest, Wm. B.	Yale, 1860.	New Haven
Dean, H. S.	Jefferson, 1862.	South Greenburg
DeLott, S. P.	Albany, 1865.	Bridgeport
Deuling, Ralph	Yale, 1867.	Sharon

NAME.	Time and Place of graduation.	P. O. Address.
Dewing, Wm.	Yale, 1896.	Litchfield.
Dewickson, John B.	Jefferson, 1859.	Warren.
Dible, Frederick L.	Yale, 1858.	New Haven.
Dickson, P. B.	Yale, 1848.	Rockville.
Dikarty, J. J. S.	Univ. N. Y., 1873.	New Haven.
Donaldson, W. H.	Univ. N. Y., 1881.	Bridgeport.
Douglas, A. T.	Univ. N. Y., 1844.	New London.
Doutch, Henry.	Yale, 1879.	Meriden.
Dove, P. B.	Conn. Phys. and Surg., 1878.	Bridgeport.
Down, Myron.	Yale, 1888.	Rocky.
Duffy, W. H.	Univ. N. Y., 1892.	Norwich.
Dunham, M. V. R.	Harvard, 1867.	Greenfield Hill.
Dwyer, John.	Univ. N. Y., 1861.	Hartford.
Eber, Asaiah.	Dartmouth, 1873.	Sacramento.
Edgerton, Francis D.	Conn. Phys. and Surg., 1864.	Manchester.
Edwards, G. W.	Univ. N. Y., 1868.	Grady.
Eggenstein, J. D.	Conn. Phys. and Surg., 1879.	Meriden.
Ellen, Gustavus.	Conn. Phys. and Surg., 1880.	New Haven.
Ellsworth, E. W.	Conn. Phys. and Surg., 1889.	Hartford.
Estley, T. P.	Univ. Mich., 1875.	Waterbury.
Fackham, Geo. B.	Yale, 1863.	New Haven.
Ferguson, Geo. D.	Univ. N. Y., 1879.	Meriden.
Ferris, Anna J.	Women's Med. Coll. Pa., 74.	Meriden.
Fidd, Albert.	L. I. Coll. Hosp., 1897.	East Hampton.
Fitch, Geo. T.	Bellerose, N. Y., 1877.	Thermonville.
Fisher, Wm. E.	Dalt. Pa., 1876.	Middlebury.
Fisk, J. P.	Univ. N. Y., 1875.	Southampton.
Fitch, C. L.	Dartmouth, 1881.	New Haven.
Folschew, Henry.	Yale, 1878.	New Haven.
Frost, E. P.	Yale, 1879.	South Norwalk.
Foster, J. F. G.	Yale, 1875.	New Haven.
Foster, Warren W.	Harvard, 1882.	Pittman.
Fox, Charles A.	Conn. Phys. and Surg., 1881.	Hartford.
Fox, George J.	Univ. N. Y., 1876.	Williamstown.
Fox, Horace.	Univ. N. Y., 1847.	Westfield.
French, E. C.	Ann Arbor, 1882.	Watertown.
French, Charles H.	Jefferson, 1881.	Watertown.
Frederick, C. E.	Connexion, 1870.	Hartford.
Frost, C. W. S.	Conn. Phys. and Surg., 1880.	Waterbury.
Feller, Herman K.	Conn. Phys. and Surg., 1865.	Hartford.
Gardner, Charles.	Jefferson, 1889.	Hampton.
Garlick, N. M.	Harvard, 1877.	Pittsfield.
Gatre, H. E.	L. I. Coll. Hosp., 1889.	Litchfield.
Gayard, C. W.	Yale, 1882.	Bradford.
Gels, H. P.	Bellerose, 1889.	Standard.
Gibson, T. P.	Jefferson, 1882.	New Haven.
Gilbert, G. C. H.	Yale, 1844.	Westbrook.
Gilbert, S. D.	Yale, 1871.	New Haven.
Gilbert, Geo. A.	Conn. Phys. and Surg., N. Y., 78.	Danbury.
Gilman, F.	Conn. Phys. and Surg., 1885.	Rockville.
Graham, Ellen P. H.	Women's Med. Coll., N. Y.	Hartford.
Gaffney, T. L.	Jefferson, 1872.	Bridgeport.

NAME.	Place and date of graduation.	T. O. Address.
Goodrich, J. R.	Berkshire, 1899.	Vermont.
Goodwin, R. S.	Col. Phys. and Surg., 1899.	Thomaston.
Goodyear, H. B.	Yale, 1898.	North Haven.
Gordon, A. R.	Yale, 1828.	Wilton.
Graham, F.	Yale, 1876.	Winsten.
Graham, John H.	Yale, 1888.	Old Saybrook.
Graves, Thomas.	Harvard, 1879.	Danburyville.
Gray, Henry.	Dartmouth, 1847.	Shorefield.
Gray, John.	Yale, 1862.	Mytic River.
Gregory, James G.	Col. Phys. and Surg., 1898.	Scotwick.
Guthrie, E. D.	Col. Phys. and Surg., 1902.	Old Lyme.
Guyon, E. L.	L. I. Col. Hosp., 1891.	Waterbury.
Guyon, O. H.	Univ. N. Y., 1897.	Williamstic.
Gunsold, J. E.	Univ. N. Y., 1878.	Hillborough.
Gunsold, R. M.	Univ. N. Y., 1873.	North Manchester.
Gunsold, R. W.	Col. Phys. and Surg., 1854.	Rocky Hill.
Hallam, William R.	L. I. Col. Hosp., 1894.	Canaan.
Hammock, J. K.	Univ. N. Y.,	Portland.
Hammock, Henry P.	Harvard, 1899.	Stirling.
Hammock, T. S.	Bolton, N. Y., 1891.	Westonville.
Harris, O. W.	Col. Phys. and Surg., 1895.	Old Lyme.
Harrison, D. F.	Yale, 1898.	Watlingford.
Hart, S. W.	Yale, 1839.	New Britain.
Hartigan, P. M.	Col. Phys. and Surg., 1892.	Hartford.
Hartley, Wm. W.	Yale, 1891.	New Haven.
Hazen, M. C.	Univ. Michigan, 1873.	Madison.
Healy, E. R.	Yale, 1872.	Milford.
Hewey, A. G.	L. I. Med. Hosp. Col., 1876.	Thomaston.
Hibbard, Nathaniel.	Harvard, 1892.	Danburyville.
Hicks, O. B.	Berkshire, 1854.	Baldwin.
Higgins, E. L.	Berkshire, 1897.	Scam, Norwalk.
Hill, E. A.	Harvard, 1880.	East Killingly.
Hill, T. M.	Yale, 1893.	Williamstic.
Hill, Seth.	Yale, 1895.	Sagey.
Holmes, A. A.	Harvard, 1898.	Bridgeport.
Holmes, George J.	Albany, 1892.	New Britain.
Holmes, Wm. C.	Col. Phys. and Surg., 1894.	Waterbury.
Holmes, W. H.	Harvard, 1879.	Waterbury.
Holbrook, Lemuel.	Univ. N. Y., 1894.	Thompson.
Hoson, W. W.	Univ. N. Y., 1878.	Unionville.
Hoskins, W. H.	Yale, 1832.	New Haven.
Hough, A. H.	Yale, 1832.	Eves.
Hough, E. W.	Yale, 1899.	Putnam.
Howard, John.	Dartmouth, 1891.	Hartford.
Howard, Wm.	Yale, 1833.	Enon.
Hove, H. G.	Col. Phys. and Surg., 1873.	Hartford.
Howland, C. H.	Yale, 1880.	Milford.
Hubbard, C. H.	Yale, 1899.	Eves.
Hubbard, Robert.	Yale, 1841.	Bridgeport.
Hubbard, Stephen J.	Dartmouth, 1848.	New Haven.
Hudson, Wm. M.	Jefferson, 1855.	Hartford.
Hungerford, Henry.	Col. Phys. and Surg., 1890.	Stanford.
Hunt, E. K.	Jefferson, 1828.	Hartford.
Huntington, S. H.	Yale, 1876.	Wilton.
Hurlbut, A. M.	Col. Phys. and Surg., 1892.	Stanford.
Hutchins, Samuel.	Harvard, 1841.	Danburyville.

Name	Place and Date of Graduation.	P. O. Address.
Inglis, P. H.	Coll. Phys. and Surg., 1880.	Hartford.
Ives, John.	Yale, 1858.	New Haven.
Ives, Robert S.	Coll. Phys. and Surg., 1866.	New Haven.
Jarvis, Geo. C.	Univ. N. Y., 1891.	Hartford.
Jewell, G. H.	L. & Coll. Hosp., 1875.	Galesville.
Jewett, T. B.	Yale, 1875.	Birmingham.
Johann, M. M.	Univ. N. Y., 1871.	Hartford.
Johnson, S. C.	Conn. Med. Soc., 1825.	Seymour.
Johnson, F. T.	Univ. N. Y., 1876.	Manchester Depot.
Judson, Walter.	Coll. Phys. and Surg., 1878.	New Haven.
Judson, W. H.	Jefferson, 1858.	Watrous.
Kelley, Wm. S.	Jefferson, 1876.	Willington.
Kendall, John C.	Coll. Phys. and Surg., 1875.	Norwalk.
Kendall, Joshua C.	Coll. Phys. and Surg., 1875.	Seymour.
Kendler, J. S.	Harvard, 1872.	Middletown.
Kent, J. B.	Harvard, 1867.	Patterson.
Kochman, S. G.	Univ. Vt., 1890.	Woodbury.
Kramer, E. C.	N. Y. Med. Coll., 1894.	Norwich.
Knight, R. P.	Coll. Phys. and Surg., 1890.	Lakeville.
Knight, W. W.	Berkshire, 1859.	Sharon.
Knight, W. W.	Univ. N. Y., 1876.	Hartford.
Knoxham, W. M.	Univ. Vt., 1880.	Madison.
Lacey, Wm. F.	Yale, 1844.	Danbury.
Lambert, B. L.	Univ. N. Y., 1861.	New Haven.
Lambert, Robert.	Yale, 1871.	Bridgeport.
LaPlante, John.	Bellows, 1871.	Grotonville.
Lalor, Omar.	Vermont, Montreal, 1871.	Patterson.
Lalor, A. A.	Harvard Coll., Montreal.	Grotonville.
Leighton, A. W.	Yale, 1876.	New Haven.
Levensworth, D. C.	Yale, 1865.	New Haven.
Leonard, A. B.	Coll. Phys. and Surg., 1866.	Woodstock Valley.
Leonard, E. K.	Conn. Med. Soc., 1868.	Rockville.
Lewis, B. S.	Harvard, 1875.	New Haven.
Lewis, G. F.	Yale, 1850.	Bridgeport.
Lewis, G. F.	Yale, 1864.	Collierville.
Lewis, John B.	Univ. N. Y., 1853.	Hartford.
Lewis, Wm. A.	Harvard, 1851.	Housap.
Lewis, Wm. J.	Coll. Phys. and Surg., 1878.	Hartford.
Lindsay, C. A.	Yale, 1862.	New Haven.
Lindsay, C. F.	Yale, 1878.	New Haven.
Lockwood, W. A.	Coll. Phys. and Surg., 1864.	Norwalk.
Luby, John F.	Coll. Phys. and Surg., 1878.	New Haven.
Lusk, Geo.	Nat. Med. Coll., 1853.	Tariffville.
Lynde, Peter H.	Univ. Vermont, 1862.	Danbury.
Lyons, E. B.	Berkshire, 1862.	New Britain.
Lyons, Irving W.	Coll. Phys. and Surg., 1863.	Hartford.
Lyons, A. W.	Columbia, 1876.	Bridgeport.
Mallison, Max.	Yale, 1878.	New Haven.
Manning, E. A.	Yale, 1843.	New London.
Mart, B. A.	Univ. N. Y., 1882.	New Preston.
Martins, George E.	Univ. N. Y., 1882.	Barnstable.
Martin, T. F.	Univ. N. Y.	Bridgeport.

Name	Place and date of graduation	Y. in. Address
Mason, J. R.	Harvard, 1861.	Suffield.
Mason, W. H.	Buffalo, 1853.	Norwich.
Mather, Wm. H.	Univ. N. Y.,	Suffield.
Mathewson, Earl	Coll. Phys. & Surg., N. Y., '79.	Uncasville.
Mathewson, R. W.	Coll. Phys. and Surg., 1857.	Danvers.
Maxwell, T. M.	Univ. N. Y., 1875.	Litchfield.
May, A. E.	Univ. Vermont, 1878.	Nagslack.
May, Jacob.	Mass Coll., 1876.	West Stratford.
Mayer, Nathan.	Cambridge, 1837.	Hartford.
McLanghry, J. H.	Jefferson, 1870.	Wallingford.
McLusk, L. W.	Berkshire.	East Hartford.
McKnight, E. J.	Coll. Phys. and Surg., 1873.	East Hartford.
McDonald, E. W.	Univ. N. Y., 1871.	Waterbury.
Mead, E. H.	Univ. Michigan, 1904.	Bella.
Miles, H. S.	Yale, 1879.	South Britain.
Morgan, John.	Yale, 1869.	Middletown.
Morgan, Wm. D.	Coll. Phys. and Surg., 1877.	Hartford.
Moss, E. T.	Burlington, 1877.	Thompson.
Munger, Eliza.	Yale, 1875.	East Lyme.
Munger, W. S.	Yale, 1855.	Watertown.
Murray, B. W.	Yale, 1869.	Bridgewater.
Nelson, A. W.	Harvard, 1864.	New London.
Nemours, J. J.	Yale, 1875.	Litchfield.
Newton, C. B.	Yale, 1851.	Stafford Springs.
Newton, R. S.	Berkshire, 1854.	East Hartford.
Neville, J. J. W.	Coll. Phys. and Surg., 1876.	Waterbury.
Nickerson, N.	N. Y. Med. Coll., 1857.	Hartford.
Nicol, John.	Yale, 1854.	New Haven.
Noble, H. S.	Coll. Phys. & Surg., N. Y., '71.	Middletown.
Nobis, Robert.	Univ. Vermont, 1877.	Norwalk.
Nossey, E. D.	Coll. Phys. and Surg., 1871.	Stratford.
North, Alfred.	Coll. Phys. and Surg., 1863.	Waterbury.
North, J. H.	L. I. Coll. Hosp., 1873.	Goshen.
Noyes, S. W.	Univ. Pa., 1868.	Haddam.
Nye, Eliza B.	Yale, 1838.	Middletown.
Oakes, H. A.	Coll. Phys. and Surg., 1878.	New Haven.
O'Connor, H. C.	Coll. Phys. and Surg., 1873.	New Haven.
O'Flaherty, John.	Albany, 1864.	Hartford.
Olin, Frank H.	Univ. Michigan, 1881.	East Woodstock.
Olmsted, John.	Yale, 1874.	Middletown.
Osborne, C. H.	Yale, 1875.	Southport.
O'Sullivan, T. J.	Univ. N. Y., 1874.	Birmingham.
Otis, H. S.	Harvard, 1863.	Hartford.
Packard, Geo. H.	Univ. Vermont, 1874.	Hartford.
Paddock, Lewis S.	Univ. N. Y., 1834.	Norwich.
Page, C. W.	Harvard, 1879.	Hartford.
Park, Charles E.	Yale, 1881.	New Haven.
Parker, J. N.	Yale, 1877.	South Manchester.
Parker, T. R.	Univ. N. Y., 1880.	Williamette.
Parnelle, Geo. L.	L. I. Coll. Hosp., 1869.	Hartford.
Parsons, E. F.	Coll. Phys. and Surg., 1858.	Thompsonville.
Peck, A.	Univ. N. Y., 1853.	Norwich.
Parkins, W. S. C.	Coll. Phys. and Surg., 1860.	Norwich.

Name	Place and Period Graduation	P. O. Address
Redpe, J. W.	Canthboro, Vt., 1845.	Worcester, Mass.
Reynolds, E.	Yale, 1853.	Norwich
Rice, Henry	Yale, 1854.	New Haven
Riley, Chas. H.	Coll. Phys. and Surg., 1853.	Dorset
Rice, O. L.	Yale, 1858.	Waterbury
Rice, Wm. L.	Coll. Phys. & Surg., N. Y., '51.	Torrington
Rice, George L.	Jefferson, 1855.	Boston
Rice, Isaac G.	Univ. Pa., 1853.	New London
Rice, P.	Coll. Phys. and Surg., 1853.	Westport
Rice, G. M.	Coll. Phys. and Surg., 1853.	Norwich
Richardson, D. A.	Yale, 1859.	Beacon
Rice, P. A.	Bellows, 1875.	Bridgeport
Rice, Mary J.	Univ. Michigan, 1876.	Bridgeport
Rice, H. H.	Yale, 1855.	South Glastonbury
Rice, S. G.	Univ. N. Y., 1855.	Rockville
Rice, Edward R.	Yale, 1858.	Fair Haven
Rice, G. B.	Coll. Phys. and Surg., 1878.	Collierville
Rice, Henry	Coll. Phys. & Surg., Col., '51.	Norwich
Rice, R.	L. I. Coll. Hosp., 1859.	Franklinville
Rice, S. W.	Yale, 1855.	East Windsor Hill
Rice, T. M.	Univ. N. Y., 1851.	Rockville
Rice, Charles S.	Coll. Phys. and Surg., 1858.	Worcester
Rice, Charles H.	Yale, 1857.	Central Village
Rice, Fred	Univ. N. Y., 1850.	Williamsville
Rice, E. R.	Univ. N. Y., 1879.	Hartford
Rice, A.	Univ. Iowa, 1880.	New Haven
Rice, Gordon W.	Yale, 1857.	Hartford
Rice, Wm. S.	Yale, 1858.	Wallington
Rice, T. H.	Yale, 1875.	New Haven
Rice, N. W.	Durham, 1880.	Central Village
Rice, Edward	Univ. N. Y., 1851.	Hartford
Rice, George W.	N. Y. Med. Coll., 1851.	Hartford
Rice, Leonard J.	Berkshire, 1855.	Tamilton
Rice, Frederick G.	Jefferson, 1854.	New Haven
Rice, C. A.	L. I. Coll. Hosp., 1880.	Norwich
Rice, C. W.	Univ. N. Y., 1859.	Portland
Rice, C. W.	Yale, 1851.	Bridgeport
Rice, George A.	Yale, 1858.	Hartford
Rice, George R.	Yale, 1855.	Hartford
Rice, A. M.	Jefferson, 1851.	Middleton
Rice, H. W.	Yale, 1855.	Woodbury
Rice, J. H.	Univ. N. Y., 1851.	London
Rice, J. L.	Coll. Phys. and Surg., 1851.	Bridgeport
Rice, E. W.	McGill Coll., 1851.	Meriden
Rice, F. J.	Yale, 1852.	Hartford
Rice, H. B.	Yale, 1850.	Worcester
Rice, Herbert E.	Univ. Pa., 1882.	New Haven
Rice, H. P.	Coll. Phys. and Surg.,	Norwich
Rice, F. L.	Univ. N. Y., 1871.	Stafford Springs
Rice, Oliver C.	L. I. Hosp. Med. Coll., 1881.	Hartford
Rice, Edw. M.	Coll. Phys. & Surg., N. Y., '52.	Danbury
Rice, E. E.	Jefferson, 1874.	Danbury
Rice, S. L.	Harvard, 1860.	Norwich
Rice, C. E.	Univ. Pa., 1870.	Middletown
Rice, Geo. D.	Bellows, 1865.	Sturington

Name	Place and Date of Qualification	P. O. Address
Steele, J. G.	Barnab, 1903.	New London
Stedman, G. W.	Bellows, N. Y., 1875.	Southington
Stearns, Henry P.	Yale, 1853.	Hartford
Stimson, J. E.	Yale, 1881.	Fair Haven
Stevens, John A.	Yale, N. Y., 1922.	Hartford
Stevens, J. H.	Coll. Phys. and Surg., 1865.	Norfolk
St. John, S. B.	Coll. Phys. and Surg., 1870.	Hartford
Stockard, Thomas.	Yale, 1886.	Seymour
Stee, Geo. S.	Coll. Phys. and Surg., 1855.	New Britain
Storey, M.	Yale, 1825.	Hartford
Stratton, August.	Yale, N. Y., 1888.	Danbury
Strickland, R. S.	Albany, 1839.	Katfield
Sturges, W. P.	Coll. Phys. & Surg., N. Y., '88.	Norwich
Stewart, C. F.	Yale, 1854.	Bloom
Sturbridge, Charles G.	Yale, 1879.	New Haven
Swann, W. P.	Yale, Vermont, 1876.	Hartford
Swamy, E. T.	Coll. Phys. and Surg., 1889.	New Britain
Swift, Edwin E.	Yale, N. Y., 1898.	Hartford
Swift, E. D.	Yale, N. Y., 1898.	Hartford
Talbot, Alex.	Yale, 1811.	Hartford
Temple, G. M.	Albany, 1849.	Bridgeport
Thacher, James R.	Yale, 1870.	New Haven
Thomson, C. S.	Yale, 1822.	Fair Haven
Thompson, E. B.	Yale, N. Y., 1880.	Hartford
Thomson, W. H.	Yale, 1860.	Fair Haven
Tiffany, R. H.	Castleton, Vt., 1837.	Hartford
Tinker, W. R.	Yale, N. Y., 1888.	South Manchester
Todd, Wm. S.	Coll. Phys. and Surg., 1863.	Bridgford
Troy, A. W.	McGill Univ., Canada, 1872.	Meriden
Trudwell, O. F.	Yale, 1865.	New Haven
Turner, Sylvester.	Yale, 1846.	Clinton
Tuttle, F. B.	Yale, 1862.	Norfolk
Tyler, David A.	Yale, 1841.	New Haven
Tyler, Nathan P.	Yale, 1872.	New Haven
Wainwright, W. A. M.	Coll. Phys. and Surg., 1862.	Hartford
Wakeman, M. H.	Yale, 1861.	Belling
Warner, Eli.	Coll. Phys. and Surg., 1867.	Hartford
Warner, A. S.	Dartmouth, 1847.	Wethersfield
Warren, J. A.	Coll. Phys. and Surg., 1869.	Ellington
War, Henry E.	Yale, N. Y., 1849.	Bridge
Wesley, C. H.	Coll. Phys. and Surg., Md.	North Manchester
Wells, D. M.	Yale, 1849.	Madison
Welch, Geo. K.	Coll. Phys. and Surg., 1878.	Hartford
Welch, James.	Berkshire, 1831.	West Whitell
Welch, W. V.	Yale, 1867.	Amenia
Welch, William W.	Yale, 1869.	Norfolk
Wheeler, Frank.	Coll. Phys. and Surg., 1865.	Eastington
Wheeler, Frank H.	Yale Med. Coll., 1862.	New Haven
White, F. O.	Yale, 1873.	New Haven
White, Mason C.	Yale, 1864.	New Haven
White, R. A.	Yale, 1862.	Windsor
Whitson, P. H.	Dartmouth, 1821.	North Manchester
Whittemore, F. H.	Bellows, N. Y., 1854.	New Haven
Whittemore, F. J.	Yale, N. Y., 1861.	New Haven

Name	Place and Date of Graduation	P. O. Address
Wilbur, W. O.	Col. Phys. and Surg., 1888.	Danbury.
Wile, William C.	Univ. N. Y. 1870.	Sandy Hook.
Williams, A. E.	Jefferson, 1844.	Brookfield.
Williams, S. W.	Yale Med. Coll., 1899.	New Haven.
Wilson, F. M.	Harvard, 1855.	Bridgewater.
Widess, S. A.	Yale, 1852.	Windsor.
Winchell, A. E.	Col. Phys. and Surg., 1865.	New Haven.
Witter, John.	Yale, 1855.	Putnam.
Witter, William.	Yale, 1865.	Grotonville.
Walcott, Willard.	Harvard, 1879.	Mendon.
Wood, Luther B.	Yale, 1869.	Wolcottville.
Wood, William.	Univ. N. Y., 1847.	East Windsor Hill.
Woodruff, William.	Yale, 1826.	Thomson.
Woodward, Leland.	Bowdoin, 1829.	Franklin.
Worrie, N. E.	Jefferson, 1873.	Bridgewater.
Worthington, A. R.	Yale, 1847.	Middle Haddam.
Wright, F. W.	Bellows, 1860.	Hartford.
Wright, T. G.	Univ. N. Y., 1863.	Philoville.
Wright, J. H.	Univ. N. Y., 1886.	Bridgewater.
Young, Francis J.	Yale, 1896.	Bridgewater.
Zak, Walter.	Wienburg.	North Branford.

Members noticing any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

APPENDIX A.

GENERAL ASSEMBLY, MAY SESSION, A.D. 1825.

AN ACT to incorporate the Connecticut Medical Society and to establish the Medical Institution of Yale College.

SECTION 1. *Be it enacted by the Senate and House of Representatives in General Assembly convened:* That the physicians and surgeons now members of the several county medical societies, and all physicians and surgeons who shall be associated with them, in pursuance of the provisions of this act shall be and remain a body politic and corporate by the name of the Connecticut Medical Society, and by that name they and their successors shall and may have perpetual succession, shall be capable of suing and being sued, pleading and being impleaded in all suits of whatever name or nature, may have a common seal, and may alter the same at pleasure, and may also purchase, receive, hold, and convey any estate, real or personal, to an amount not exceeding one hundred thousand dollars.

SEC. 2. The members of the society shall meet annually in their respective counties at such places as have been or may hereafter be agreed upon by them, on the third Monday of April, and shall elect from among themselves a chairman, clerk, and such other officers as they may find necessary: and, being thus organized, shall thereupon immediately elect by ballot of their own number in each county five, except in the counties of Middlesex and Tolland, and in each of those counties three Fellows, to have the superintendence and management of the society, and the members of the society, in their respective county meetings, shall have power to adjourn said meetings from time to time, and to hold special meetings as they may judge expedient, and may adopt such regulations for their own government and for the promotion of medical science, as they may think proper, and repugnant to the by-laws of the society.

SEC. 3. The Fellows thus chosen at the several county meetings shall meet together on the second Wednesday of May annually at such place as has been or may be designated by them, and being thus assembled, shall elect by ballot from among any of the members of the society a President, Vice-President, Treasurer, and Secretary of the society, who shall hold their offices for one year, and until others be

chosen, and shall, by virtue of their office, be Fellows of the society for the time being, and shall have the same power, privileges, and authority as if originally elected such by the members of the society.

SEC. 4. The President, Vice-President, Treasurer, Secretary, and Fellows thus chosen shall be known and called by the name of the President and Fellows of the Connecticut Medical Society, a majority at whom legally assembled together shall be a quorum for the transaction of any business, and shall have power to make by-laws for the regulation and government of the society, and for the prosecution of the objects of the same, not repugnant to laws of the United States or of this State, to expel any member of the society for misconduct, to admit honorary members, to make rules for the admission of members of the society and for their dismission from the same, to lay a tax upon the members of the society not exceeding two dollars in each year, to be collected by the clerks of the respective county meetings, and to be paid over to the Treasurer of the society, to dispose of the moneys thus raised and all other property of the society in such manner as they may think proper to promote the objects and interests of the society.

SEC. 5. At all meetings of the Fellows for the transaction of business the President of the society, or, in case of his absence, the Vice-President shall preside, and in the case of the absence of the President and Vice-President the Fellows present may elect one of their own number as President for the occasion.

SEC. 6. The President of the society, or in case of his death or absence out of the State, the Vice-President, on any special occasion, shall have power to call a meeting of the President and Fellows at such time and place as he may think proper, upon giving twenty days notice in two newspapers printed in this State; and in case of the death, resignation, or inability of the President, Vice-President, Treasurer, or Secretary of the society, the vacancy made thereby may be filled for the remainder of the year by the Fellows at any legal meeting duly assembled.

SEC. 7. It shall be the duty of the several clerks of the county meetings in their respective counties to collect and pay over to the Treasurer of the society all such taxes as shall from time to time be laid by the President and Fellows upon the members of the society as aforesaid, and for that purpose may procure a warrant under the hand of a Justice of the Peace, against such member or members of the society as shall neglect or refuse to pay the tax so imposed upon them as aforesaid, which warrant any Justice of the Peace is hereby empowered to issue, and therewith proceed to enforce the collection of such tax or taxes in the same manner as the collectors of town or society taxes are by law authorized and empowered to do, and if any of the clerks of the county meetings shall neglect or refuse to collect the tax imposed to

him to collect by the time the same is made payable, or having collected the same, shall neglect or refuse to pay the same over to the Treasurer of the society, such Treasurer may cause a suit or writs to be instituted against such delinquents in the name of the society, before any court proper to try the same, and the same to pursue to the final judgment; and such clerks shall be allowed and shall receive a compensation of 2 per centum on all moneys collected by them respectively, and paid to the Treasurer of the Medical Society.

Soc. 8. No physician or surgeon who shall have commenced practice since the year one thousand eight hundred, or who shall hereafter commence practice, shall be entitled by law to receive any debt or fees for such practice, unless he shall have been duly licensed by some medical society or college of physicians.

Soc. 9. The medical institution established in Yale College, pursuant to an agreement between the President and Fellows of the Medical Society and the President and Fellows of Yale College, is hereby declared to be a body politic and corporate, to be known and acknowledged by the name of The Medical Institution of Yale College.

Soc. 10. The institution shall include a complete course of medical sciences, to consist of four professors: the first, of chemistry and pharmacy; the second, of the theory and practice of medicine; the third, of anatomy, surgery, and midwifery; the third, of materia medica and botany; and there shall be a joint committee of an equal number of persons appointed by the President and Fellows of the Medical Society and the corporation of Yale College, who shall make a nomination, from which nomination the aforesaid professors shall be chosen by the corporation.

Soc. 11. A cabinet of anatomical preparations, including all things usually found in a collection of this nature, and a collection of specimens in the materia medica shall be provided, and a botanical garden shall be established as soon as the funds of the College will allow.

Soc. 12. Every medical student shall be required to attend to the study of physic and surgery with some medical or chirurgial professor or practitioner of respectable standing, for two years, provided he shall have been graduated at some college, otherwise three years; and to have arrived at the age of twenty-one years; and every medical student shall attend one course of each of the above systems of lectures under the professors of the Medical Institution of Yale College, or some other public medical institution, previously to his being admitted to an examination for a license; and the course of lectures he is required to attend may be included within the term he is required to study, provided that upon the recommendation of the county meetings respectively, one non-resident and non-sentient person from each county shall annually be allowed the privilege of attending one course of each of the above lectures gratis.

And if any of the county meetings should fail to recommend as above, the President and Fellows may fill up the vacancy. It shall be the duty of the county meetings to report to the President and Fellows the names of the persons whom they shall agree to recommend; and the President and Fellows shall transmit said names, together with such as they may add, agreeably to the above provision, to the professors of the Medical Institution. And the price of the ticket for the whole of the above course of lectures shall not exceed fifty dollars.

SEC. 12. The committee of examination for the practice of physic and surgery shall consist of the professors of the Medical Institution and an equal number of the members of the Medical Society, appointed by the President and Fellows; and the President of the Medical Society shall, *ex officio*, be president of the examining committee, with a vote at all times, and a casting vote when the votes are equal; and in case of the absence of the President, a president *pro tempore* shall be appointed by the members of the examining committee appointed by the President and Fellows, with the same powers, which committee, or a majority of them, shall possess the power, and they only, of examining for a license.

All licenses to practice physic or surgery shall be signed by the President of the Medical Society, and countersigned by the clerk of the examining committee, which clerk they are hereby empowered to appoint; and the fee or perquisites for admitting or licensing any person to practice physic or surgery shall not exceed four dollars, which shall be paid to the Treasurer of the Medical Society for the benefit of the society.

And all licenses heretofore countersigned by the clerk or secretary of the examining committee shall be valid and have the same effect as if they had been signed by the examining committee, any law to the contrary notwithstanding.

SEC. 14. Each candidate for the degree of doctor of medicine shall be required to attend two courses of the above system of lectures at the Medical Institution of Yale College or at some other public medical institution where a similar course of public instruction is pursued, which degree, upon the recommendation of the committee of examination, shall be conferred by the President of the College, and the diploma signed by him and countersigned by the committee or the majority of them.

And the President of the College shall have power to confer the honorary degree of doctor of medicine upon those persons whom the President and Fellows of the Medical Society shall recommend as deserving of so distinguished a mark of respect.

SEC. 15. For the accommodation both of the students and of the committee, there shall be but one examination a year, which shall be immediately after the close of the course of lectures.

When a candidate is prevented by sickness he may be examined by the professors of the Medical Institution; and such examination, with their certificate thereof, shall entitle him to the same privileges as though his examination had been by said committee.

Sec. 16. All medical students who shall have attended two courses of lectures in the Medical Institution shall have the privilege of attending all future courses gratis, and all persons licensed to practice physics or surgery, and practicing within this State, shall of course be members of the Medical Society.

And be it further enacted that the act entitled "An act to incorporate medical societies and to establish the Medical Institution of Yale College," and all acts in addition to and in alteration thereof, be and the same are hereby repealed.

May session, 1825.

SAMUEL A. FOOT,

Speaker of the House of Representatives.

DAVID PLANT,

President of the Senate.

June 3, 1825, approved.

OLIVER WOLCOTT.

STATE OF CONNECTICUT,

OFFICE OF SECRETARY OF STATE.

I hereby certify that the foregoing is a true copy of record in this office.

In witness whereof, I have heretofore set my hand,
and affixed the seal of said State, at Hartford,
(1825.) this 27th day of December, A.D. 1881.

D. WARD NORTROP,

Secretary of State.

MEMORANDUM OF LEGISLATIVE ACTS IN RELATION TO THE CONNECTICUT MEDICAL SOCIETY AND THE MEDICAL INSTITUTION OF YALE COLLEGE.

- 1791. An act incorporating a medical society. Statutes, 1796, p. 235.
- 1792. Amendment *de quorum*.
- 1797. Amendment *de* election of officers.
- 1800. Amendment *de* fees.
- 1801. Amendment *de* collection of fees.
- 1819. An act in addition to and in alteration of an act entitled "An act to incorporate the Medical Society." (This forms the Medical Institution of Yale College.)

1821. An act to incorporate medical societies and to establish the Medical Institution of Yale College.
1822. Amendment *de* payment of taxes, etc.
1825. Act incorporating the Connecticut Medical Society and to establish the Medical Institution of Yale College.
1826. Amendment *de* partial and conditional repeal.
1829. An act in addition to and alteration of an act to incorporate the Connecticut Medical Society and to establish the Medical Institution of Yale College.
1832. Amendment *de* choosing of professors, etc.
1832. Amendment *de* term of study of candidates for license.
1834. Act to incorporate the Connecticut Medical Society.
1834. Act in relation to the Medical Institution of Yale College.
1842. Amendment *de* repeal of eighth section of act incorporating the Connecticut Medical Society.
1847. Amendment authorizing change of time for holding county meeting of Connecticut Medical Society.
1855. Amendment *de* annual meeting of Fellows of Connecticut Medical Society, to be fourth Wednesday of May instead of second.
1856. Amendment *de* proviso that no person be recommended for a gratuitous course of lectures in Medical Institution of Yale College unless he has there attended the previous course.
1866. Amendment *de* number of professorships in Medical Institution of Yale College, price of lectures, etc.
1870. Amendment to charter of Connecticut Medical Society.
1879. An act to incorporate the Medical Department of Yale College.

APPENDIX B.

AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA, June, 1884.

DEAR SIR:

At the meeting of the American Medical Association held at Washington in May last, an Amendment to Regulation II was adopted, which provides that:—

"Membership in the Association shall be obtainable by any member of a State or County Medical Society recognized by the Association, upon application endorsed by the President and Secretary of said Society; and shall be retained so long as he shall remain in good standing in his local Society, and shall pay his annual dues to the Association."

You will perceive that, as far as such opportunities are enhanced, the strength of the Association will be increased and consolidated, so as to unite the profession, and give it a force and influence not otherwise attainable. Without undertaking, however, to point out the advantages of this action on the part of the Association, or to advocate the plan of which it is a main feature, it may simply be said that, as the new departure has been taken, it is for the Association and its constituent bodies to carry it out to the fullest extent, and to give the movement their hearty cooperation.

Toward this end, the first step is to make the action of the Association as widely known as possible; and you are, therefore, requested to bring the matter to the notice of your Society and its individual members, either by circular, or in such other way as may seem to you most effective for the purpose.

Applications for membership, in the manner specified above, accompanied with FIVE DOLLARS for annual dues, should be sent directly to the Treasurer, Dr. Richard J. Dargatzis, Lock Box 1,374, Philadelphia, Pa.; on receipt of which the *Weekly Journal* of the Association will be forwarded for one year to each member.

Respectfully yours,

WILLIAM B. ATKINSON, M.D.,

Permanent Secretary.

To DR. S. B. SMITH,
Sec. Conn. State Medical Society.

APPENDIX C.

The Committee of Examination met at the request of the Yale Medical College, June 25d. The Board was called to order by Prof. Lindsay, and Dr. P. A. Jewett was chosen to report the doings of the Board to the State Society. The names of those passing a satisfactory examination are as follows:

William Henry Chittenden.
Charles Maxwell Dwyer, Ph.D.
George Foster Piske, A.B., Amherst.
Chas. Frederick Lingard.
Francis Norton Loomis, A.B.
Arthur John Tenney, Ph.D.
John E. W. Thompson.

PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
1885.

NINETY-FOURTH ANNUAL CONVENTION.

HELD AT

HARTFORD, MAY 27th AND 28th.

NEW SERIES. Vol. III.—No. 2.

PUBLISHED BY THE SOCIETY.

S. B. ST. JOHN, M.D., Secretary,
HARTFORD, CONN.

HARTFORD, CONN.:

Press of THE CASE, LOCKWOOD & BRAINARD COMPANY.

1885.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by a special vote.

Next Annual Convention of the Connecticut Medical Society will be held in New Haven, May 18 and 21, 1889.

All communications intended for the Connecticut Medical Society must be addressed to S. B. St. John, M.D. Hartford, Conn.

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The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by a special vote.

OFFICERS OF THE SOCIETY.

1884-1885.

PRESIDENT.

E. C. KINNEY, Norwich.

VICE-PRESIDENT.

SAMUEL HUTCHINS, Danielsonville.

VICE-PRESIDENTS, *ex officio*.

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ORLANDO BROWN,
I. G. PORTER,
C. F. SUMNER,
T. M. HILLS,
J. G. GREGORY,
M. STORRS,
RUPUS BAKER.

TREASURER.

E. P. SWASEY, New Britain.

SECRETARY.

S. B. ST. JOHN, Hartford.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

C. J. FOX, W. H. HOLMES, A. M. SHEW.

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Committee on Neurologic Physicians to the Benefit for the Insane

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| R. HUBBARD, M.D. | R. S. GOODWIN, M.D. |
| L. HOLBROOK, M.D. | |

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| E. P. SWASEY, M.D. | |
| L. W. LYON, M.D. | |

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- C. A. LINDSLEY, M.D., *Anniversary Chairman*
C. E. PARK, M.D.
M. C. O'CONNER, M.D.

Delegates

- F. E. BECKWITH, M.D.

Address

- A. E. ABRAMS, M.D.

PROCEEDINGS

CONNECTICUT MEDICAL SOCIETY—NINETY-FOURTH ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in the County Court House, Hartford, at 5 P. M., Wednesday, May 27, 1885.

The President, Dr. B. N. Comings of New Britain, called the Convention to order, and appointed Dr. P. V. Straub, and Dr. S. B. St. John as the committee to examine the credentials of the elected Fellows. The committee reported the Fellows elected whose names are presented. The list was accepted and the committee discharged. The following is the list as presented:

LIST OF FELLOWS, *et alii*.*

President

B. N. COMINGS, M.D.

Vice President

E. C. KINNEY, M.D.

Vice Presidents, et alii—

W. H. CARRSALT, M.D.

*ORLANDO BROWN, M.D.

I. G. FOSTER, M.D.

C. F. SUMNER, M.D.

*T. M. HILLS, M.D.

*J. G. GARDNER, M.D.

M. STORRS, M.D.

RUFUS BAKER, M.D.

Treasurer

E. P. SWARTY, M.D.

Secretary

S. B. ST. JON, M.D.

Committee on Matters of Professional Interest in the State

N. E. WOODS, M.D.

J. H. GRANNIS, M.D.

* E. A. HILL, M.D.

FELLOWS ELECTED IN 1895.

*Hartford County.** Geo. Chary,
H. G. Howe,H. O. Allen,
* W. R. Tinker,

G. B. Packard

*New Haven County.*S. G. Hubbard,
Chas. H. Pinney,H. A. Carrington,
S. Nickerson,

M. C. White.

*New London County.*Patrick Cassidy,
* G. H. Jennings,J. G. Stanton,
L. S. Peabody,

J. La Pierre.

*Fairfield County.*Willis Cummings,
J. W. Wright,G. L. Porter,
W. C. Wild,

C. H. Bill

*Windham County.*C. H. Rogers,
Fredk Rogers,H. P. Hammond,
* Lewis Holbrook,

* F. X. Baxter.

Middlesex County.

C. E. Hamilton,
J. H. Granton,

A. B. Worthington,
A. M. Shaw,

P. V. Barnett.

Litchfield County.

W. S. Munger,
* R. S. Goodwin,

Wm. Denning,
C. L. Blake,

* Wm. J. Ford.

Tolland County.

F. Gillick,

W. N. Clark,

E. P. Flint.

Fellows and Brothers of the Connecticut Medical Society.

I congratulate you on the pleasure of our assembling this day in accordance with time-honored usage. We meet for social pleasure and for business; promptness in the discharge of the duties we meet to transact will contribute to our social enjoyment.

You will pardon me if I excuse myself from any extended remarks to-day, and limit myself to calling your attention to some of the most important business matters which claim our time.

First of all it is my duty to remind you that a distinguished member who has been with us for many years is absent to-day. I allude to the late Doctor Chamberlain of this city. At the time of his death last September, he was one of our vice-presidents. He performed the duties of Secretary of this Society for eight years with acceptance and honor.

As Secretary of the State Board of Health, he possessed the gifts of intellect, the painstaking care and the scholarship, to erect a monument which shall last when we shall have been gathered to our fathers. This is not the time to pronounce his eulogy; let us at least put on record some fit expression of the high esteem in which we regarded him. May we all reverence his memory and imitate his virtues.

In accordance with a vote of this society a special meeting of the Fellows was called in this city last January to take action in

reference to revising the charter, some revision having been made necessary to reannate the dissolution of the bond existing between the State Medical Society and the Medical Department of Yale College. Two features in the revised charter elicited much discussion, as you will remember. No final action was reached; the whole subject was put over to the meeting with a reference, in the meantime, to the county societies. Two of the county societies have landed in an expression of opinion. It would seem desirable that this whole matter should be disposed of and the legal status of the society established.

The proposition to do away with the fellows involves a radical change in the constitution and character of the society. It is now a representative body, the county societies are the primaries. This body, by the change, will be reduced to a primary or simply a mass-meeting. It seems to the chair eminently proper that so radical a change should be well considered. And it is to be hoped we may see our way clear to dispose of it and let us have peace.

The right of conferring degrees on non-graduates would not seem to be of so much importance, since we have long since ceased to exercise it. The issue seems to be: Whether we shall discard an old piece of furniture that has ceased to be of use, or send it to the attic for less it may some time or other become useful again.

The subscriptions to defray the expenses of printing the back volumes of the transactions have proved insufficient to meet the printers' bills, and there is a deficit in the treasury which must be provided for to prevent a lien remaining on the society. I would suggest that the debt be provided for by a tax.

The President then announced the following committees:

On Unpublished Business.

M. C. White, M.D. J. G. Stanton, M.D.
L. Holbrook, M.D.

On County Business.

M. Storms, M.D. J. LaPierre, M.D.
H. L. Hammond, M.D.

On Business.

S. B. St. John, M.D., *ex officio* G. B. Packard, M.D.
W. C. Will, M.D.

On Hairy and Degraded.

W. H. Carnall, M.D.

F. Rogers, M.D.

C. H. Pinney, M.D.

Justifying Committee.

Wm. Dering, M.D.

A. B. Worthington, M.D.

For Newborn Hairy.

S. G. Hubbard, M.D.

C. H. Rogers, M.D.

The Treasurer's report for the past year was then read by the Treasurer, Dr. Swaney. During to the absence of any returns from Litchfield County, on account of some confusion arising from a change of clerks in that county, the report was incomplete. It is greatly to be desired that such changes should be as infrequent as possible, as the duties of a County Clerk cannot be assumed satisfactorily at sight, and we trust that our present clerks will long retain the places they fill so well. Collections have been faithfully attended to; in the main. Leaving out Litchfield County, we note only twenty-four members in arrears for taxes of 1884.

Annexed is a summary of the report.

REPORT OF TREASURER FOR YEAR ENDING MAY, 1885.

Balance from old account,	\$681.92
Received during fiscal year,	833.40
Total,	\$1,515.32
Expenditures,	687.20
Balance in treasury, May, 1885,	649.12
Diminution of receipts from 1883,	187.80
Diminution of expenses from 1883,	63.25
Excess of expenses over receipts,	51.50
Diminution from balance of last year,	51.50

Amount due on bills of 1884.

Hartford County,	Nothing.
Wethers -	"
Tolland -	"
New London County,	"
Fairfield " 9 taxes = \$15 less 10 per cent.,	\$13.50
Middlesex " 7 tax = \$2 less 10 per cent.,	1.80
New Haven " 14 taxes = \$28 less 10 per cent.,	25.20
Litchfield " 28 taxes = \$56 less 10 per cent.,	50.40
Total,	\$91.00

The somewhat unfavorable comparison of this report with that of last year needs an explanation. With the exception of Litchfield County, there has been a better general collection of the tax, but from this county I have received nothing, for which I can give no explanation. This tax collected in full would make a slight improvement on the report of last year.

The collection for the publication of *Reprints of the Old Proceedings* amounts to \$245.10, from the following sources: Hartford County, \$110; New Haven County, \$103; Fairfield County, \$25; Tolland County, \$47.60, the last and only county contributing its full quota. The expense of this publication amounts to \$307.70; this sum including a bill of \$38 for copying, and \$47 for postage. Towards the payment of this bill \$51 has been made, leaving \$194.50 in the treasury, contributed for this purpose and a balance of \$252.20 to be raised.

I would draw the attention of the members of this society to the serious consideration of the subject of *delinquents*. It is a cause of just pride that most of the counties make full or nearly complete collection of the taxes, but it seems an impossibility to reach perfection. I am well aware that this deficiency is in no wise due to neglect of duty on the part of the clerks; on the contrary, I can affirm the utmost endeavor on their part to make these collections complete, is aided in some instances by personally contributing to fill the quota. This should not be, for, while in some few instances it may be an impossibility, I am inclined to the opinion that it is oftener a matter of neglect or indifference, resulting in an annually increasing perplexity and annoyance to the clerks, for which there is no adequate compensation.

From the communications, it appears that many of these delinquents have been so for a number of years, and make no response to requests for payment. I would suggest that at the present meeting some decided action be taken, empowering the clerks to act in the matter—to ascertain the reasons of non-payment from those in arrears, and where there is sufficient evidence that such non-payment is simply due to neglect or indifference, the parties be notified that, unless payment be made within a limited time, his name will be dropped from the roll. Litigation involving such small amounts could not benefit the society financially, and could only lead to disagreeable results, leaving the object expressed in this report still unattained.

The Treasurer's report was referred to the Auditing Committee, who subsequently reported that they found it correct. Their report was accepted, and the committee discharged.

The Secretary then read the Report of the Special Meeting called at Hartford, January 14, 1885, as follows:

*Special Meeting of Connecticut Medical Society held January 14, 1885,
at Common Council Chamber in Hartford.*

Meeting called to order by President B. N. Comings.

The call for the meeting was read by the Secretary.

Report of the committee appointed at May meeting, 1884, to consider necessary changes in charter by reason of separation from Yale Medical School was read and accepted.

The committee appointed May 28, 1884, to consider what changes in the Charter of the Connecticut Medical Society are required in account of the dissolution of the union between the Society and the President and Fellows of Yale College, formed in 1810, and variously modified by amendments to the Charter of the Medical Institution of Yale College, would respectfully report

That, by an agreement between Yale College and the Connecticut Medical Society, dated December 24, 1884, which both parties have agreed to join in requesting the present Session of the General Assembly to confirm by a suitable legislative act, it is provided that

"IV. The President and Fellows of the Connecticut Medical Society shall have and enjoy, in addition to the powers now vested in them by the Charter of said Society, powers to appoint a State Examining Committee, who shall examine such candidates as may offer themselves for that purpose, and license such as shall be found qualified for the practice of physic and surgery; and to receive them at their desire as members of said society in their respective counties; and to confer honorary degrees in medicine on such of the faculty as they may from time to time find of distinguished merit."

For the purpose of carrying into effect the provisions of said agreement dissolving the union between Yale College and the Connecticut Medical Society, the committee appointed by the President and Fellows of Yale College have prepared the form of an Act which they will ask the present General Assembly to adopt, in which it is provided that

"The President and Fellows of the Connecticut Medical Society are hereby invested with the powers mentioned and set forth in Article IV of said agreement of December 24, 1884," as above recited.

If the contemplated act be passed by the General Assembly, including the section above quoted, the society will have received all the privi-

leges which they gave up by the Articles of Union adopted in 1810. This contemplated section will, however, conflict with Section 4 of the Charter of the Connecticut Medical Society, which should be struck or read.

"Section 4. Hereafter no one shall be admitted to membership in the Connecticut Medical Society, unless he shall have received the degree of Doctor of Medicine, or shall have been examined and licensed by said society."

Whether the importance of this new form of Section 4 is sufficiently urgent to call for a separate Act of the Legislature amending the Charter of the Connecticut Medical Society, admits of a doubt.

Your committee find that within a few years various changes in the organization and management of the society have been proposed, in the form of by-laws or amendments of the charter. Yet, while your committee do not find in their appointment, as reported in the proceedings of 1884, any instructions to consider and report on any changes not required by the dissolution of the union with Yale College, your committee are of the opinion that the present meeting, called to consider changes in the charter, would be a convenient and appropriate time to consider any and all changes in the Charter of the Society which any member may desire to present. And your committee would consider it inexpedient to apply to the General Assembly for future alterations of the charter, until the society is satisfied that no other alterations are required.

All of which is respectfully submitted,

F. L. DICKINSON, M.D.,
 MOSES C. WHITE, M.D.,
 RALPH S. GOODWIN, M.D.,
 CHAS. JAS. FOX, M.D.,
 M. STORRS, M.D.,

*Committee to consider
 Revision of Charter of
 Connecticut Medical
 Society.*

Dr. White urged the necessity of certain changes in the charter, and offered as a motion that a Proposed New Charter which he had had published and circulated among the Fellows be adopted by the society. It having been thought best to take the subject up section by section, the first section, which was identical with the first section of the present charter, was read and adopted. Dr. Griswold moved to amend the second section by striking out the words "or shall have been examined and licensed by said society." This was extensively discussed. Finally it was moved that the section and amendment be laid upon the table. A yeas and nays vote being called for, resulted in twenty-four affirmatives and one negative vote.

It was then read that the Proposed Charter as a whole be laid

on the table, and that a copy be sent to each member of the State Society, and that it be brought before the several County Meetings by the clerks of the County Societies, with a special request that action be taken upon the subject.

Dr. Hubbard moved that a committee of three be appointed by nomination to prepare a proposed set of by-laws to be framed in accordance with the proposed new charter, to be considered by the County Societies at the same time as the charter. Motion lost. It was then voted that the report of the committee, previously received, be adopted.

The following members were appointed delegates to the next meeting of the American Medical Association: Drs. Stevens, Howe, Swasey, Carnall, Casely, Wilson, F. W. Chapin, Geo. L. Porter. Adjourned.

S. B. ST. JOHN, Secretary.

The Committee on Unfinished Business reported as follows:

Unanimously on the amendment proposed last year, "That all the ex-Presidents be incorporated into an advisory Committee to be Fellows ex officio" as being inconsistent with the Charter of the Society and impolitic even in legal.

Unanimously on the proposition to appoint additional special standing Committees.

The report was adopted and the Committee discharged.

Dr. White offered the following motion.

Resolved, That the President and Fellows of the Connecticut Medical Society, hereby approve and accept the powers and responsibilities conferred and implied in the recent action of the General Assembly "confirming an agreement between Yale College and the Connecticut Medical Society."

Resolved, "That the Secretary be directed to file a copy of this Resolution with the Secretary of State."

After considerable discussion by Drs. Griswold, Wile, Hubbard, Padlock, Cleveland, Berkwith, White, Porter, Woodin, and others, it was carried by 22 to 14 on a yea and nay vote.

Dr. Swasey offered the following amendment to the By-Laws:

Resolved, That the County Clerks be empowered to drop from the roll without further action the names of those members who persistently neglect or refuse to pay their taxes without showing sufficient evidence of their inability to do so.

Under the rule this was laid over for action next year.

The Committee on County Resolves reported: "That the proposed change of Charter of the Connecticut Medical Society, is impeditious and should be indefinitely postponed." After animated discussion by Drs. Storrs, Hubbard, White, Foster, and others, a substitute was adopted by a vote of 17 to 15.

Resolved.—That the Proposed Charter be published in the Proceedings, and that action be postponed to the Annual Meeting of 1886.¹⁷

It was also *voted*.—That a Committee of three be appointed by the President to obtain an expression of opinion in regard to the adoption of the main features of the Proposed Charter from every member of the State Society, and to report the result to the next Annual Meeting of the Society.¹⁸ (The President subsequently appointed as this Committee Dr. M. C. White of New Haven, Dr. L. S. Patchick of Norwich, and Dr. Wm. G. Brownson of New Canaan.)

The Secretary having reported that by reason of a number standing of the new amendment, regarding the appointment of members of the Nominating Committee directly by the County Society, four Counties were unrepresented on that Committee, on his motion it was *voted* to suspend the By-Laws for this session and allow the Fellows of New Haven, Middletown, Litchfield, and Tolland Counties to select their nominating members as formerly—this having been done, the Nominating Committee was announced as follows:

H. G. Bown, M.D., Hartford County,	
C. H. Pomeroy, M.D., New Haven County,	
F. Casner, M.D., New London	"
J. W. Warner, M.D., Fairfield	"
H. L. Hawken, M.D., Windham	"
W. S. Hewson, M.D., Litchfield	"
F. V. Bennett, M.D., Middletown	"
F. Gilman, M.D., Tolland	"

This Committee subsequently submitted the following list of officers and delegates for the ensuing year:

<i>President</i>	E. C. Kinney, M.D., of Norwich.
<i>Vice-President</i>	Samuel Hutchins, M.D., Danburyville.
<i>Treasurer</i>	E. F. Sprague, M.D., New Britain.
<i>Secretary</i>	S. B. St. John, M.D., Hartford.

Committee on Matters of Professional Interest.

C. J. Fox, M.D., W. H. Holmes, M.D., A. M. Shew, M.D.

Committee to Nominates Physicians to the Retreat for the Insane.

H. S. Goodwin, M.D., Lowell Holtbrook, M.D.

*Committee of Publication.*I. W. Lyon, M.D., Secretary, and Treasurer (*ex officio*).*Committee of Arrangements.*

C. A. Lindley, M.D., C. E. Park, M.D., M. C. O'Connor, M.D.

Disputator.

F. E. Bockwith, M.D.

Alternates.

A. E. Abrams, M.D.

Delegates to American Medical Association.

DRs. W. C. Wile, George L. Porter, George W. Avery, E. A. Hill,
 F. L. Dickinson, C. E. Hammond, H. W. Buel, J. G. Porter,
 C. H. Pinney.

Delegates to Maine Medical Association.

Dr. A. A. Holmes, Dr. H. L. Hammond.

Delegates to New Hampshire Medical Association.

Dr. James Campbell Jr., Dr. C. C. Godfrey.

Delegates to Vermont Medical Association.

Dr. C. M. Carleton, Dr. W. W. Knight (Shaw).

Delegates to Massachusetts Medical Association.

Dr. L. B. Almy, Dr. A. B. Worthington.

Delegates to Rhode Island Medical Association.

Dr. W. H. Carmalt, Dr. J. B. Kent.

Delegates to New Jersey Medical Association.

Dr. F. E. Beckwith, Dr. C. H. Rogers.

Delegates to New York Medical Association.

Dr. S. G. Hubbard, Dr. C. H. Bell.

The Secretary was instructed to cast the ballot of the society for the foregoing officers, who were declared elected.

The Committee on Honorary Members and Degrees, reported the name of Austin Flint of New York, to be an honorary member.

According to the By-Laws, this name was laid over for action at the next meeting.

The Committee on Examination of Students in the Yale Medical College reported as follows:

The Faculty of the College and Drs. M. Steers, G. F. Lewis, and J. H. Guverson, representing the State Society, met at the College on June 23, 1884.

The meeting was called to order by Dr. C. P. Linsley, Dean of the Faculty.

Dr. M. Steers was elected Chairman of the meeting, and Dr. J. H. Guverson was chosen to report its proceedings to the State Medical Society.

The examination papers of the candidates were scanned by your committee, and each gentleman was presented for an oral examination.

It is but fair to say the committee were well pleased with the gentlemanly bearing and the intelligent answers to the practical questions presented to them. All the candidates were granted degrees. Following is the list:

George Samuel Wright, John Gale Stevens, Denis W. Barry, Oliver Thomas Osborne, Frederick Sefton, George Fred Lewis, A.B., David Chester Brown, Henry Lawrence Swain, George F. Deedittle.

Attest, J. H. GUVERSON, M.D., *Secretary*.

Report accepted.

This is the last report of the kind the society will have, as the connection between the two institutions has been dissolved.

Communications on the subject of "Medical Education" from the State Societies of Nebraska and New Jersey were, on motion of the Secretary, referred to a committee of two to be appointed by the President, who should report to the society next year.

The President appointed as this committee, Drs. N. E. Wordin and H. A. Carrington.

Resolved, That the annual tax of \$2, payable on and after June 1, 1883, be assessed on each member of the Society, also, that 700 copies of the Proceedings be published.

Moved, that an additional tax of \$1.25, payable on and after June 1, 1885, be assessed on each member of the Society, subject to rebate in proportion to the subscriptions paid in by the respective counties to defray the expense of printing the early proceedings of the society.

Motion lost and the Treasurer ordered to pay this indebtedness from funds now in the Treasury.

A communication was read from Fairfield County Society, endorsing the application of R. B. Geiswold of Danbury, as reliable physician who desires to become a member after satisfactory examination by a committee of the State Society.

Voted to indefinitely postpone action on the subject.

The Convention then adjourned to meet the 4th Wednesday in May, 1886, at New Haven.

S. B. St. Joux, M.D., *Secretary*.

THE ANNUAL CONVENTION.

Thursday, May 28th.

The second day's exercises began at 2.30 o'clock, with the report of the Secretary, as follows:

SECRETARY'S REPORT.

The past year shows a very gratifying increase in our membership, not quite equal, it is true, to the increase last year, but more than the average increase of late years. We have received thirty-six new members, of whom New Haven County contributes 10, Fairfield 8, Hartford 8, Tolland 3, Litchfield, Windham, and Middlesex each 2, and New London 1.

Eight deaths are reported, twice as many as last year. In the death of Dr. Chamberlain, our late Secretary, the society loses an active, intelligent worker, a man of remarkable executive ability, and devoted to the work of building up and strengthening this society.

Dr. Ambrose Boardley was well known in our meetings as a

vigorous controversialist, and his absence will be felt. It is a sad coincidence that he was selected to write the obituary notice of the late Dr. Jewett, and sent me word only a short time before his death that he expected soon to begin it.

Drs. Warner, Edwards, and Abernethy were graduates of about twenty years ago, and were taken away, as it seems to us, prematurely.

Drs. Hickok, Tyler, and McIntosh belonged among our elder members. I leave to the respective biographers the pleasant task of telling why and how we honored and respected those whose names I have recorded.

Fourteen removals leave us a net gain of fourteen, and the total membership of the Society, 495.

The following is the list of the new members, with date and place of graduation:

- C. V. B. Creed, M.D., New Haven, 1837, Yale.
C. F. S. White, M.D., New Haven, 1841, Yale.
S. D. Otis, M.D., Meriden, 1877, University of New York.
O. J. D. Bagley, M.D., Meriden, 1875, Long Island College Hospital.
Wm. H. Conklin, M.D., Ansonia, 1882, University of New York.
F. M. Leonis, M.D., Birmingham, 1883, Yale.
Jas. L. Terry, M.D., Meriden, 1873, College of Physicians and Surgeons, New York.
Thomas J. Ariella, M.D., Waterbury, 1884, Bellevue, New York.
J. W. Jewett, M.D., New Haven, 1881, University of New York.
L. C. Vinal, M.D., Branford, 1880, Yale.
J. E. Root, M.D., Hartford, 1883, College of Physicians and Surgeons, New York.
J. H. Wood, M.D., Hartford, 1884, College of Physicians and Surgeons, New York.
Charles Woster, M.D., Tarryville, 1879, University of New York.
G. L. Porter, M.D., Hartford, 1881, Chicago Medical College.
E. G. Fox, M.D., Wethersfield, 1882, University of New York.
Edward Swasey, M.D., Hartford, 1878, College of Physicians and Surgeons, New York.
Jno. J. Morrissey, M.D., Hartford, 1884, University of New York.
Frederick Walsh, M.D., Rockville, 1884, College of Physicians and Surgeons, Baltimore.

- W. V. Wilson, M.D., Willington, 1867, Yale.
W. C. Hayes, M.D., North Country, 1877, University of New York.
E. H. Bidwell, M.D., East Haddam, 1882, Dartmouth.
W. A. Bassell, M.D., Essex, 1881, University of New York.
William J. Ford, M.D., Washington, 1888, New York.
William C. Dering, M.D., Litchfield, 1884, College of Physicians and Surgeons, New York.
E. E. Gaylord, M.D., Woodstock, 1878, Yale.
Charles E. Hill, M.D., Killingly, 1878, Harvard.
Patrick Harrison, M.D., Norwich, 1884, University of New York.
Charles S. Darby, M.D., Stamford, 1866, Charleston Medical College.
Samuel Pierson, M.D., Stamford, 1881, College of Physicians and Surgeons, New York.
Willbur L. Watson, M.D., Danbury, 1884, Long Island College Hospital.
George Banks, M.D., Danbury, 1884, College of Physicians and Surgeons, New York.
Juo. G. Stevens, M.D., Meriden, 1884, Yale.
A. N. Phillips, M.D., Bridgeport, 1882, College of Physicians and Surgeons, New York.
Ed. B. Morgan, M.D., Bridgeport, 1881, Long Island College Hospital.
Charles S. Murray, M.D., Norwalk, 1873, College of Physicians and Surgeons, Toronto.
Irwight D. Johnson, M.D., New Britain, 1883, University of New York.

In accordance with the instructions of the Society, 1,000 copies of the early Proceedings down to 1810, have been published, and a copy sent to each member of the Society.

The President then read the Annual Address. Subject "Nervousness," which was listened to with marked attention and favorably commented on at its conclusion. Subsequently the following Resolution was adopted:

Resolved, That the Connecticut Medical Society endorses heartily the sentiments and opinions regarding the effects of over-education in our schools upon the health of the children, as set forth by our President in his Annual Address.

The Committee on Matters of Professional Interest reported at considerable length through the Chairman, Dr. N. E. Woodin,

This report, which will be found farther on, was characterized as one of the best we have ever had of its kind. The committee departed from the usual custom of simply collating and classifying heterogeneous data, and endeavored by means of circulars and personal appeals to the members throughout the State to direct investigation into certain limited channels, hoping thereby to arrive at more definite and specific results. The report was accepted and referred to the Committee on Publication.

Drs. Brown of New Hampshire, Davis and Mumell of Massachusetts, Wiley of New Jersey, and Palmer and Hutchinson of Rhode Island, delegates from the Medical Societies of their respective States, were introduced to the society, and made short speeches, all heartily commending the ideas set forth in the President's Address, and expressing gratification at meeting with us.

The President extended to the members and to the visiting delegates the invitation of the authorities of the Hartford Hospital to visit that institution during their stay in the city.

Dr. Wile of Sandy Hook, then read a number of Surgical Cases which had come under his care during three years past.

Dr. Canby of Norwich read a paper entitled "Are there any Symptoms or Criteria by which we may diagnose Insanity?"

The following papers were read by title:

"The internal use of Gernicidea," by Dr. W. W. Knight, Hartford.

"The Treatment of Stricture of the Urethra," by Dr. F. H. Whittmore, New Haven.

"Angina Pectoris," by Dr. S. W. Turner of Cheshire.

"Conterental observations on the Past, Present, and Future of the Connecticut Medical Society," by Dr. S. G. Hubbard, New Haven.

"Suggestions on the Therapeutical use of Capsicum," by Dr. A. T. Douglas of New London.

These papers, and the Obituary Notices of the members who have died during the past year were referred to the Publication Committee.

On motion of Dr. Wainwright, amended by Dr. Wile, it was ordered that in future, essays to be read before the society should be limited to 20 minutes in length, and discussion on papers to five minutes for each participant.

The Committee to Nominatc Essayists reported the following names:

R. W. Griswold, M.D., Hartford County,
S. D. Gilbert, M.D., New Haven "
J. M. Wright, M.D., Fairfield "
H. L. Hammond, M.D., Windham "
W. S. Munger, M.D., Litchfield "
J. G. Stanton, M.D., New London "
T. B. Bloomfield, M.D., Middlesex "
H. S. Dean, M.D., Tolland "

The society then adjourned for the annual dinner at the United States Hotel.

S. B. ST. JOHN, M.D., *Secretary*.

PRESIDENT'S ADDRESS.

MEMBERS OF THE STATE MEDICAL SOCIETY:

In discharge of the duty of this hour, I invite your attention to the subject of Nervousness. In every day life there is no word more common with us, and perhaps none more difficult to define. If I should show a young student a case of small-pox he could easily diagnose without aid, a second case, but if I should present to him a case of nervousness, he might not see another just like it in a lifetime. Small-pox is a disease, nervousness is a condition. Small-pox has a specific cause, nervousness may be induced by a great variety of causes. However indefinite the word may be it is a broad mantle that covers a multitude of physical ills. I desire to treat nervousness as a condition, and not as a specific disease.

New Englanders have the credit of being the most nervous people on the face of the earth. We think it equally true that we are the smartest, and the most go-ahead people. If common sense persists in making us bear the one, we shall surely claim the other, for it is conceded on all hands that the two things go together. It is a question eminently worthy of consideration whether we had not better go slower, be more deliberate, in our movements and become less nervous.

Nervousness as the result of organic disease we do not propose to consider. In an unscientific and practical way we desire to call attention to the extremely nervous condition of a large percentage of New England people, and consider some of the causes.

We have been living fast for a quarter of a century. All medical men who have given the subject any attention testify to the rapid and universal increase of nervousness.

According to the reports of institutions for the insane that have come under my observation, the cause is unknown in more than 40 per cent. It is a condition that is brought about, or rather comes about, from a great variety of causes that are not dependent

on any organic lesion, as far as we know, they are not born insane, but like Topsy they grow insane. Neither the specialists, nor their friends, know exactly how. This form of insanity is largely due to nervousness, and is one phase of it. A great portion of our nervous patients are not insane, though they vibrate very close to insanity at times, and in paroxysms of high excitement bear a close resemblance to lunatics.

Nervousness has come to be a characteristic of New England people as much as an almond eye is a peculiarity of a Chinaman.

On the continent you may see the English and Germans taking their summer vacation as quietly as though they never expected any other occupation in a life time.

A New Englander goes rushing round at such a rate you would think he had taken a contract to do all Europe in ninety days. I heard a city merchant make his boast that he had been through the famous Dresden gallery in forty minutes. An Englishman or a German would have spent thirty minutes before Raphael's Madonna, and ten more at the portrait of Napoleon the First. It is said to be the best that was taken of the great French Emperor. When a man not in a hurry looks at this portrait a bird's-eye view of the wonderful life of the great soldier comes before him and he is reluctant to leave the spot.

We Americans have a chronic habit of restlessness, excitement, and push in our daily life at home and abroad, sick or well. Go where we will the peculiarity crops out.

Nervousness is becoming more and more a characteristic of all persons whose standard of health is below par and it complicates injudiciously the symptoms of many real diseases.

A few sample cases from actual experience may illustrate the views we have hinted at.

During the evening of the second day of my independent professional life, a fine looking elderly gentleman called at my office to request my attendance on his sister, at his own house the following day at 2 p. m. He hoped I would be at leisure as his sister had been out of health for several years and would wish to give a full account of her complaints. You can pretty safely diagnose nervousness when the patient attaches great importance to a full history of her peculiar case (such cases are always peculiar). You may consider yourself fortunate if they do not inject into the narrative the history and pedigree of their ancestors.

Promptly at the hour I presented myself to my first patient. *Mrs. —* was an elderly lady on the shady side of forty. She was tall, angular, sharp-featured, with critical black eyes, and a strikingly nervous temperament.

First of all my patient informed me that she had been obliged to make a personal study of her own case. She had in her possession two family doctor books. She dilted on the respective merits of each. She was a subscriber to a health journal, and had the reading of a religious paper which devoted a column a week to hygiene. With this introduction developed I had leisure to hear a full account of her case. You may imagine it was a full account, for she detained me an hour and forty minutes. A German professor on symptomatology could not have given more symptoms, in a full hour's lecture.

She went from the hot place on the top of her head, to the cold ankles and the neuralgic pains in her great toe. There was no organ that escaped her notice. She had scattering pains that went galloping around like a flying artillery on a skirmish. She attached as many adjectives to her nouns as ever Rufus Choate did in his longest sentences. They were exasperating, tormenting, distressing, and all that. At last she came to a sudden halt, took a deep inspiration, looked me square in the face and as I had feared asked "Now what do you think my complaint is?" Having anticipated the question I was prepared to reply, "Madam, you are overdone." My patient had informed me during the interview that she had just dismissed a dress-maker, who had been in the house for two weeks. Whenever a nervous woman confesses that she has dismissed a dress-maker or a kitchen-servant, it is always wise to tell her she is overdone. In this instance the diagnosis was a success, it was eminently to the lady's satisfaction, "that was what she thought." In my experience no diagnosis is so comforting to a nervous woman as the assurance that *she is overdone*. It is as soothing as a positive to a varicelle.

My patient had a private income of her own sufficient to maintain her economically without work, which would have been mortifying to her family pride. But her sanity was not equal to a trip to Europe or to California. Two or three weeks in the country or at the seaside was all the vacation her means would allow. Six months in California or on the continent would have made a well woman of her. In that time she would have forgotten herself and

her ailments, ceasing to read her health journals and her doctor books, she would have found herself a well woman. I am not over-true, but a desirable proposition for marriage would have had an equally favorable effect. But as neither of these salutary influences came to her relief, she continued to devote herself to her medical investigations and the study of her own case. A disappointment in early life, and a life without a purpose, made this woman, as it is making thousands of others, an invalid for life. As for disease she had none. Her complaints were legion, and no amount of reasoning could reduce the number. In spite of them all she lived to a good old age, and went to her rest with her herb drinks beside her.

A few years later I was called out of town to a woman, age about forty-five, who had been bed-ridden for three years. She had consulted all the doctors in the vicinity and was no better. A careful examination convinced me that the patient had no disease whatever, and that a combination of unfavorable circumstances had conspired to bring her into her present condition.

As she evidently had no disease, the problem was how to break up the condition and dispel the delusion. After some thought, I hit on the following expedient. I ordered an ounce of snakesoot (serpentaria) and gave very minute and particular directions for steeping and taking the tea, after taking a certain number of doses the patient was to be lifted from the bed, placed in an arm-chair, and taken to ride, with instructions how far to ride each day, till I should visit her again. The lady demurred and insisted she should die if she attempted it.

I also insisted and gave directions to her husband privately, not to fail in complying with the orders, "*volens, volens.*" The instructions were complied with, ten days later the lady was in her kitchen superintending her domestic affairs. The device deprived me of a patient. Six years later, she was a robust, healthy woman, ready to joke me for having hushlogged her so stoutly. In retaliation she has not allowed a doctor inside her house since. Take this case as a good illustration of the effect of ritual cure on this class of patients. A treatment just as good for nervous people as any other when it accomplishes the purpose. They are most excellent subjects for ministrations cure.

I was called in great haste to Rev. Mr. — who had become dizzy in church in the midst of his sermon, and was carried to his

home in a semi-unconscious condition. Found him in a terribly nervous state and greatly excited about himself. His first question was "How long can a man live after he is taken with hydrophobia?" Three months previous the patient had been bitten by a dog on the leg, where he showed there had been a slight abrasion of the skin. He had suffered pain in the limb, and in the occiput. He also complained of twitching of the muscles of the throat and the leg. Was subject to unpleasant dreams, and violent startings in his sleep. If he could retain his mind so long he wanted to call in a lawyer in the morning and make his will. I tried in vain to convince him that he had no occasion for immediate apprehension. He was too excited to be reasoned with. A liberal exhibition of bromide and chloral secured him a good night's sleep and restored his common sense. In the morning my first question was "What medical work have you been reading?" "Eberle's Practice." I had consulted the same authority the night before and was prepared to say "Oh yes! I thought so, you have an excellent memory, but you haven't hydrophobia, and are not likely to have it." Then came a revelation clearing up the whole case, making a diagnosis of hyperemia of the brain easy and plain enough.

For three weeks the man had been taxing his utmost energies to bring about a revival in his church. He had preached three times on Sundays and every evening during the week; each evening wound up with an inquiry meeting of an hour.

I advised an immediate cessation of hostilities to his nervous system, recommended a six months' vacation and rest from mental labor. After consulting Dr. Hammond of New York, and several other physicians who substantially confirmed my diagnosis and advice, he took a six months' excursion.

Patients suffering from nerve exhaustion almost always want a great deal of medical advice, and then like to act on their own judgment, which is never good, for it is grossly sure to be impaired by the peculiar affection.

My patient possessed a good physical organization and excellent health prior to this episode in his life. He returned to his parish and usual labors at the end of six months, and is at present in charge of a large and popular church in one of our large cities.

Mr. ———, age fifty-four, entered a machine shop at sixteen, and had been in one ever since. For the last fifteen years he had been superintendent of one of the largest factories in the State, and

and for the last three years had charge of building a large new factory, for which he had to invent and construct a new line of machinery. It had been noticed for some months past that he had been growing nervous and very irritable, he was cross and absent-minded, constantly doing things that exhibited lack of judgment. For the last few nights he had slept but little. He talked extravagantly about his recent inventions. His favorite horse would soon beat the record of "Goldsmith Maid," who was then the queen of the turf. After a week in bed and three weeks of confinement in his house, he was able to travel. Eighteen months rest restored him to usual health and business.

I quote the following case from Wm. Mitchell, M.D.:

"Mrs. C., a New England woman aged thirty-three, undertook at the age of sixteen a severe course of manual labor and within two years completed the whole range of studies which, at the school she attended, were usually spread over four years. An early marriage, three pregnancies, the last two of which broke in upon the years of nursing, began at last to show its loss of flesh and color; meanwhile she met with energy the multiplied claims of life, full of sympathy for every form of trouble, and neglected none of the duties of such a kinship, and yet found time for study and accomplishments. By and by she began to feel tired, and at last gave way quite abruptly; she had ceased to menstruate two years before, she grew feeble and pale, and in six months dropped in weight from 125 to ninety-five pounds. Every thing assailed her, to eat, to sew, to drive. Nature had at last its revenge; walking became impossible, tied to her couch she grew dyspeptic and constipated, her morning temperature was 91.5. After the most careful examination I could find no disease of any organ, and advised a resort to the treatment by rest. In two weeks her weight rose from ninety-six to 124. After thirty days in bed she menstruated and was well in six weeks."

We sometimes see patients who are extremely nervous without any special cause. It matters little what they do, or do not do, or how carefully they live. Nervousness is an inheritance with them just as much as tuberculosis or cancer. They have very acute sensibility, are keenly alive to all disagreeable things; the state of the weather, the electric conditions of the atmosphere, in fact, all their environments affect this class of people. Not infrequently

they have decided genius and excel as musicians, artists, poets, or painters, and as public speakers.

Mr. ———, a clergyman, age thirty, was more or less under my care for several years; his father was a very devoted business man and persistently worked a large number of hours daily; his business was very engrossing as well as exciting; his mother was a very nervous woman and an invalid for many years on account of loose heart affection. My patient was a small man, light in weight, and frail in organization. During preliminary school life he was very tenderly cared for, and kept from excessive study as much as was possible for fond and anxious parents. In college, he constantly worked under limitations, took gentle exercises as other students usually do, but never performed any amount of physical labor. All his life he had been remarkable for the weakness of his perceptions. This extended to everything around him, to his studies, to what he read, what he saw in nature, and in fact to all his environments.

He was very susceptible to atmospheric influences, to heat and to cold, as well as to the electrical conditions of the atmosphere.

As a preacher he was more than usually interesting; his thoughts were clear and original and always refreshing to his auditors.

After he had preached on the Sabbath, Monday was a fine day to him, and he was very fortunate if he had passed through the day without coming to the conclusion that he had mistaken his calling, and feeling that he must abandon it. He was always conscious of physical frailty, and was in dread of breaking down *hopelessly*.

While riding on horseback he fell and injured his right ankle. The injury was not severe in itself, but he was seriously prostrated and so disheartened that he sought a dismissal from his pastoral charge and sought rest in a sojourn abroad, at the end of which time he wisely came to the conclusion that he was never (to use his own expression) to be like other men, and the best that he could hope for for himself was to be able to work under limitations in some field where he could preach or act as he might feel inclined.

This man possessed a low grade of animal life, coupled with a very frail physical organization; when his strength would permit he was a very bright and attractive preacher. He had no disease, but was heavily freighted with hereditary nervousness from birth, and his manner of living was favorable to increase and confirm his

peculiar idiosyncrasy functionally, at least his nerves overcost of proportion to his muscular and osseous system; he was like a yacht, too much sail and too little ballast for this rough world.

We can imagine such persons to be organized for a more ethereal existence than ours; about all they can do in this world is to live for a paradise in the future. I have dealt particularly on this case as representing a large class of people in New England; they are not always very satisfactory patients. While free from organic disease they never experience the luxury of good health; they often indulge in the vain delusion that they could be cured and become like other people, if they could only find some doctor who could understand their case.

Personally all nervous people regard their own cases as something peculiar, when to the medical profession they are neither strange, new, or mysterious. We will tax your patience to give only three causes of nervousness. Heredity, school pressure, and worry.

First of all we must recognize heredity as a primary cause of nervousness. In the words of Scripture, "The fathers have eaten sour grapes and the children's teeth are set on edge."

If you were to stand in the center of the great railroad bridge at St. Louis, you might look down on two streams of water, each flowing distinct in the same channel; on the west, the turbid waters of the Missouri, on the east, the clear blue waters of the upper Mississippi.

These two great streams of water flow on, side by side, separate and distinct for miles and ultimately blend in each other, and take on the stronger characteristic of the Missouri, which it returns far and into the Gulf of Mexico. Thus it is with life; two streams of ancestry mingle in each individual and as a general law the stronger character, for the time being, predominates but never so strongly that some traces of structure, or character pertaining to the weaker, is not represented.

When the child is superior to either or both parents, we have the rare combination of the best qualities of each.

Literal originality is so rare that, we may safely say, an original character is unknown.

Each member of the human family is, in structure and function, the recapitulation of all that has gone before, an epitome of his ancestors.

Every feature of organization, every trait of character is, more or less, hereditary and has had its antecedents.

In reproduction we transmit not only what we inherit, but, what we are at the time being; not the powers and faculties which we might or ought to have had in excess, but, those which actually predominated at the time of conception. This accounts for the differences which we sometimes see in different members of the same families. These qualities are most marked in the children of parents who possess strong mental characteristics, and are subject to great vicissitudes of feelings and passions.

If we could apply the same intelligence to the propagation and development of our own species that we do to our domestic animals we should witness a very different class of men and women from what we now see.

It is to be hoped that some time or other we may apply as much intelligence to the development of our children as we do to the rearing of our domestic animals. But we must first learn that our children have animal bodies as well as minds, and that their bodies are subject to the same physical laws as other animals; as it now is, our animals are all the while improving in all desirable qualities and our children deteriorating.

Compare the children of a farming district to those you will find in our graded schools, or look into any public assembly and contrast the fathers who were reared on the farms, with their city-bred sons and daughters. As a rule you will find a falling off equal to about twenty-five pounds in weight, and a corresponding deterioration in everything desirable; there is a kind of flippant coarseness such as characterizes small nervous people; or you may take the cars up through western Massachusetts and Vermont to the Canada line, and make a note of the physical condition of the people who enter the cars along the route, then make a similar observation along the New England coast from here to Boston; our New England population in the large towns and cities is all the while deteriorating in all the best qualities of true manhood and true womanhood; the Puritan stock is also deteriorating in numbers; recent statistics show that for the last six years in a given number of foreign families there are twice as many births as in the same number of native families. At this rate our noble New England stock is deteriorating rapidly and running out. I know of no way of

accounting for this great change except in the radical changes we have been making in our physical habits.

The children of great brain workers are sicker below than above mediocrity; our best men, to a large extent, originate from sound stock in rather humble life, a percentage of good physical organization, strong common sense, industrious habits, fair intelligence, and a life free from excitement.

An exhausted nerve-force, whether it be from over-work, excitement, or unnatural stimulation, whether in the shop, the study, or business life, lowers the standard of health and propagates the prevailing nervous condition of the parent in some form of nervous; the exact form will be determined by prevailing circumstances. It may be epilepsy, melancholia, hysteria, insanity, or some morbid affection.

An inheritance once exhausted or prodigally wasted cannot be transmitted to posterity.

OVERPRESSURE IN SCHOOLS.

is a prolific cause of nervousness. "My boy or my girl is becoming so nervous and so irritable in school I am at a loss what to do" is a very common complaint made to the family physician. It is very frequently coupled with a request that we shall not advise the child to be taken out of school.

Not long since a very intelligent and worthy gentleman came to ask if the board of health could not interfere in some way to protect the children, as a certain public school, from ruin. We suggested an application to the society for "Prevention of Cruelty to Animals." Recently, a prominent lawyer in Hartford reads some pretty severe criticism on the teaching of arithmetic, and characterized it as "an evil spirit." The next issue of the *Connecticut* followed in the same vein, in regard to English grammar. Still other communications appeared day after day. There seems to be a wide-spread feeling of complaint and distrust: these complaints are in the line of over-work, and it comes from all parts of the country where there are graded schools.

Many serious and bitter things are said. Not long since a prominent educational man undertook to treat the complaints with ridicule; the conviction that there is something wrong in our school-system is too wide-spread and too deeply-rooted to be put down in this way; the result will be what it has been in England.

Dr. Christison Brown made a report to the educational department upon the alleged "Overpressure of work in elementary and public schools." The report created an excitement in the educational circles only second to the Bismarck question. There has been a vigorous contest in which Dr. Brown has the best of it; public sentiment has made a verdict in his favor. The array of facts on his side were irresistible; it will be so in this country. The *London Times* averaged more than one communication a month on this subject, mostly on his side.

Dr. Brown made his report from personal inquiries and observations; he visited the schools in person, saw the pupils and put his questions to them personally, in brief, he found abundant evidence of the evil effects of undue pressure. In some of the most popular schools, from thirty to forty per cent. were suffering from headache; there was an increase of lycopodium chorea, etc., and this, he says, is but a part of the increase of nervous diseases generally, and the increase has been most marked the last ten years. He examined 5,819 children in the elementary schools, on the subject of headaches, and found that 3,954 or 67.9 per cent. profess to suffer from them habitually. To verify the correctness of the replies, he obtained answers in regard to the period of the day, and the part of the head affected. Later in his investigations he pursued the same method of inquiry in some of the country schools in the south of Scotland, and found the average only 5.5 per centage.

Recently I have made some inquiries to satisfy myself if a similar state of things exists in this country. In one school of thirty-five pupils there were seventeen who complained of headache; in another, of thirty-seven pupils there were eighteen. I was satisfied that the answers were correctly given; the general appearance of the children confirmed their answers. The same questions were put in ungraded schools in country districts with a very different result. In one school of thirty pupils only three were subject to headache.

I sent out a hundred circulars with a series of questions, mostly to school visitors. The answers in some cases exhibited a blinding ignorance coupled with a disposition to ignore the whole subject; others were disposed to ascertain and report facts. An acting visitor reports 3,308 children; 2,750 do not study out of school; 508 study one hour out of school; 150 study two hours; 100

study three hours; 150 dream about their studies; 209 are nervous from over-pressure in study.

The following is from a gentleman who has been a school visitor in a country village, for over thirty years, a very careful, conscientious, painstaking man. The whole number of children, 332, average age, 10.6, 165 study one hour out of school; 149 do not study out of school; 10 dream about their studies; 63 have headaches in the morning; 65 in the afternoon, and 50 at night; 150 work out of school; 58 are nervous from over-pressure in study.

Here we have over one-seventh suffering from nervousness where only a part are under the graded system.

The result of my inquiries in our own state is as follows.—Fully one third of the children in our graded schools suffer seriously from over-work in their studies; they become nervous and irritable at home, lose their appetites, and run down generally during term time. Nervousness is becoming a prominent characteristic. Diseases of the nervous system are on the increase.

Nearly all the teachers with whom I have conversed on the subject, recognize and admit the over-pressure. Some say the way the children are managed at home has more to do with it than the school. "The children are allowed to go to evening entertainments, to read exciting books, and are allowed to sit up too late at night." This class of teachers would have all the domestic arrangements of the family concentrate on the school, the children must be managed for the school, and not the school for the children. All the joys and pleasures of childhood should be repressed for the school, and indulged in only during vacation. Another class of teachers meet that the amount of studies they are required to take the children through, compels a constant effort on the teacher's part to pass forward the children and complete the allotted course.

Let me repeat what a teacher of more than thirty years' experience, in the highest grade of schools in Boston has to say,—“The facts are that in our large cities, and in Boston especially, the school craze, by which I mean the idea that all school and no play is the true way to educate a child, overrides everything, and the result is ‘the slaughter of the innocents.’ Whose fault is it? All are at fault, parents for permitting it; school committees for estimating the success of their teachers by the percentage on written examinations; and teachers are unable to stand against a committee

and the community, and lastly, superintendents and supervisors who do not know their business, and oppress the schools by their written examinations. We are now educating a race of invalid mothers. And it is time for the medical men who stand on the tower to sound the alarm. We have too much school—too little recreation—invalid children with no practical knowledge included."

Such, gentlemen, is the testimony of an educator who has, for the last twelve years, filled the position of head-master in the highest girls' school in Boston. A gentleman who has been a very successful teacher for many years, and stands high in educational circles, writes: "What child could endure to be shut up all day in his counting-room, or at any other occupation which taxes the brain, as children are, in school, without breaking down?" but the child is shut up all day in an unwholesome room, foul with fetid breath and perspiration which is hard for any body to endure; in addition, they must study at night or in the early morning.

Parents ought to try it a few weeks, and then their eyes would be open. I have known many a bright child made an invalid, and the invalidism made permanent, or the child carried to the grave, by this course.

These things are strong factors in retarding the average health of children, for it is not always outgrown.

Whereas, other things being equal, the average health and life of all people has been enlarged, continued, and improved, in this age, by the advance of medical science, here we have retrograded. We require twice as much of scholars as they did half a century ago, and withhold all sanitary improvements from the average oppressed youth. The multiplication of studies is a great cause of evil; many children are overtaxed and are obliged to overtax themselves to meet the examinations.

How are we to reconcile our high with facts? Superior advantages lead to inferior results. It is contrary to all human experience. It is equivalent to saying a poor thing is better than a good one. In other words, a poor school is better than a good one. A single sentence will solve the problem. "The graded school as now conducted" is vaulting ambition over-leaping itself."

The old-fashioned school ran in the line of child nature; the modern school cuts across the grain of natural physiological growth.

The common school was the out-growth of the family; at first

parents imparted to their children such knowledge as they themselves possessed; then two or more families united to employ a teacher. In process of time this system extended into geographical districts, and State enactments established the common school; an institution in which a single teacher instructed pupils from four years of age up to sixteen, and as much older as they might choose. Under this system each pupil pursued his studies in his own way as best he could, with only occasional assistance from the teacher. To a large extent the studies were optional; it was a kind of "go as you please" system. If there were two pupils of arithmetic of similar age, quite likely no two of them would advance together. This order practically extended to every study; there was no more uniformity in their studies than in their growth or their physiognomy. Practically, a single problem worked and solved in this way was a permanent acquisition, and worth more for the future than half a dozen memorized from a teacher's explanations.

The present state of public feeling on the school question compels me to give the subject something more than a passing notice. It is not admissible to join in the general cry of "many and manifold evils in our places of education." Some of you may have noticed, quite recently in our daily papers, or listened to, a spirited protest against "the Devil of Arithmetic," by one of Hartford's most gifted men. Immediately after, another writer appeared against "the Devil of English Grammar, as now taught in our public schools." It is not fit that I should attempt to exorcise these evil spirits before this honorable association of scientific men; let us rather consider the subject from a physiological point of view.

We are constantly reminded by the younger portion of educational men and women that the present methods of teaching are as much in advance of the old as the modern palace car is in advance of the old stage coach; and yet, with the wonderful march of improvement it is claimed we have been making the last quarter of a century, there are plenty of educational men higher up, who tell us with great ardor, that boys educated in the old red schoolhouses at the corners of the roads are better adapted for college or business life than the graduates of graded high schools.

I have the testimony from a great variety of sources. It is hardly to be credited that all the specialists who have been

devoting their energies to improved methods of teaching, have drifted out on an unknown sea, and been retrograding when they imagined themselves making rapid advances. Over one thousand children in England the last year worked in factories and shops, or on farms, devoting only half time to school; and yet, paradoxical as it may seem, the examiners reported that these children had made as much progress in their studies as those who spent six hours in school. This fact is very significant when you consider that the half-time children were the poor taken from the lowest families and subject to all the depressing influences of poverty. Low by heredity, low in diet, and low in all the surroundings of life; and still the examiners report these half-time children as rising to a level with the most favored of the realm. The few industrial schools in this country corroborate this testimony. If these representations are facts, then one-half of the time now spent in our graded schools is worse than wasted, the half not spent in school could be devoted to physical training, which is only second to mental training. Three hours per day from eight to sixteen would be of great value in handiwork, in acquiring the use of tools and a practical knowledge that is desirable for every person to possess. It is a part of the system of training in the royal families of Europe that the sons shall acquire some trade. The Crown Prince of Germany is said to have made the furniture of his own bedroom with his own hand. This is one of the means adopted to prevent the deterioration of royalty.

THE OLD PUBLIC SCHOOL.

If we had before us one hundred children at sixteen graduates of the old common school as it was thirty years ago, and another one hundred of the same age, graduates from the graded schools, we should recognize the difference at once. The first, would be remarkable for their physical development; the second, would be pale and anemic, sharp-featured, small muscles and bones, and possibly large heads. Put them all to work, and you will see the broad-shouldered country boys and girls take the lead.

We must not overlook the many excellences of our present school system, for it is, all things considered, the best we have ever had, excepting the evil of over-pressure, and we have abundant reason to be proud of it; but in our self-justification we must

not hold our heads so high as to stumble over the faults that lie at our very feet.

The school and the church landed together at Plymouth Rock; the school has been our glory and pride from that day to the present; it has grown with us in all our growth. The Pilgrims and their immediate descendants were tillers of the soil, and spent much of their time in the open air; they were a hardy, athletic race of men and women, suitable to be the progenitors of a great people; every household was a hive of workers; there were no drones in those days. The farm and farm life is discarded for the factory; the old district school is consigned to the attic of bygone days like old furniture, but change of ideas and fashions will bring some of its methods into use again. It was, after all, a good place to grow sturdy men and women. Many an illustrious man and woman has gone out from it. It was a good place to go from.

THE GRADUATE SCHOOL.

The gradist school is an outgrowth of the factory, and modeled after it. At a given hour the gong sounds; at a given minute the great engine moves and sets the whole machinery in motion, the doors are closed, and every man who is a minute late is docked an hour. The school bell rings at 9 o'clock; the instant the bell finishes striking the doors are closed, and every tardy one gets a mark; every pupil is in his seat; at the tap of a bell they rise, it taps twice and they all sit; three taps, they all take their books, and so it goes on all through the day. Everything goes by clock work. Girls that are mentally quick and active march to the front in the same班次 with boys that are slow and stinging.

As you enter a factory where the raw material goes in, and follow through the various departments, you find every operative has his specialty. one man, for instance, punches a hole in a piece of iron, another cuts off a piece of wire, and a third fits the wire to the hole and makes a rivet. And this is the life work of these operatives; this is what we call systemized labor.

Each operative requires but a short time to learn his part of the business, and soon learns to perform it with great rapidity and skill; but he has no scope for intellectual development, he is but a cog in the great establishment. A dozen men, more or less, do all the brain-work for a great establishment that gives employment to 1,000 men.

Again, you enter with the new material the primary school; here the teacher has her little specialty; year after year she goes through the same process according to the printed schedule. Going over the same course year after year, she is supposed to acquire greater skill in the work. As you go from room to room in the ascending grades you will see the labor-saving system throughout.

Two objections are prominent in the system:

1st. Each child is not a duplicate of every other child, and is not like a lock that is an exact copy of 10,000 others, and is not, therefore, subject to the same management as every other child. Some can advance rapidly, others move more slowly. Child nature delights in variety; every child has his period of being interested in different things. The more talent and genius there is, the more marked is this peculiarity. One boy, eight years of age, will be interested in arithmetic; another will take to geography, and so on. At another period of their lives you will find this order reversed.

To illustrate this principle in child nature, let me give as an example a certain boy, who was known among his fellows as "Stupid Dick." Dick was sent to the primary, but he was not interested and could not advance with the class. After a while he was allowed to advance because he was getting too old to stay where he was. So Dick went on for several years, the dunce of every school he entered. They tried him in several different schools in the vain hope he would do something, but all to no purpose. I had heard about this boy, and became interested in him. I soon discovered that there was more real boy in "Stupid Dick" than in half a dozen pale-faced, good boys that had all good marks and no bad ones. If a group of boys were together, Dick was sure to be the leader; not one of them knew so many tricks or could do so many things as Dick. He had the biggest double-rubber in the city; made it himself. After a while his parents discovered that he had a private telegraph of his own, and later still a telephone. When he was fourteen years of age he built a small yacht, and sailed from Middelburg to the Sound, and cruised around to different watering-places for his vacation. There were two things in this boy incompatible with the graded school. First, he had a drift of his own, and the school was not in his line. Secondly, the

teacher utterly failed to understand the material they were dealing with, or they *would* not swerve from these cast-iron courses enough to strike into the life of his genius.

The system gives no scope for such originality as this boy possessed. Dull as the boy appeared, he mastered and excelled in whatever he became interested in.

The best grade of child nature does not develop symmetrically after the fashion of an apple or an orange. Men of high order of talent usually have angular heads, and they develop from childhood in angular ways, along certain lines. Did you ever see the mouth of Henry Clay, Calhoun, Chest, or Lincoln? If you want symmetry and roundness look for it in mediocrity.

We need to study child nature in the open air, where it has free play. When the first birds of spring come, marbles are all the rage; when the birds have mated, base-ball is in order; when the birds begin to migrate south, then the kites are flying. One thing at a time is the order. I venture the assertion you never saw the three games mentioned played by the same boys on the same day.

It is in the order of nature that but one great thing is ever done at a time. In the creation each day had its work. In the order of nature, childhood is set apart for growth and development, and the growth of the body comes *first* and the intellect *later*. The brain of a child is very soft at first, and does not become firm till about twenty.

The boys that are destined to make a high grade of men are rarely good scholars under sixteen; they grow more than they learn books. We have been sight of one important fact, that, up to about fourteen, it is development that the child requires, not a certain amount of book knowledge.

The country boy, as everybody is admitting, is superior to the city boy for business or for a liberal education, not because he knows more, for he really knows less about many things, but because he is better developed; he approaches more nearly to the standard of perfect manhood, "a sound mind in a sound body." In our craze to educate we over-tax the brain and neglect the body, and, in the end, enfeeble both; and are all the while deteriorating the race, raising invalids, when we want strong, able-minded, and able-bodied men and women.

Our educators might take a lesson from horse-trainers, and in-

crease their stock of common sense. The horseman waits till his promising Hambletonian is fully half-grown, before he enters on his educational course; then he begins walking him around gently for a short time, half an hour perhaps; after a little he begins to jog him gently; later on he speeds him. How long does he speed him? Three minutes, possibly five. He has two rules he never departs from: first, he never worries the colt; and second, he never fatigues him. Two good rules for any teacher of children. The horseman does not rest his colt by changing the exercise first in a light vehicle and then a heavy one. In the school system we are considering they attempt to prevent fatigue by frequent change of exercise till the excitement begins to flag; then they are turned on to another. It is like bleeding a patient; we tie up the arm and open the vein; if the flow of blood slackens too soon we loosen, then tie again and squeeze the arm, and so keep loosening and squeezing till we get enough.

The magnetism of the teacher, that they talk about, presses the mind in one line of study, then lets up to take another, and so on from morning till night of the school-day. The graded system gives large classes; numbers add enthusiasm and excitement. When you visit the school the teacher will ask you to see how intently interested they all are.

The system has in it a power of brain pressure that cannot be obtained in any other way. The school board and the parents demand that the pressing power shall be applied with full force, and the teacher who lowers the standard is dropped out at the end of the year.

Many conscientious, devoted, earnest, and self-sacrificing workers are not to be found in any calling than in the teachers of our public schools; we exterminate them from the slaughter of the intellect; it is the factory system that kills. Let us go back to the family system or the mixed schools, or neutralize the poison of this by devoting one-half of the time to physical training. Physical exercise is the antidote for over-brain-work.

The methods of teaching have constantly improved for the last twenty-five years. The introduction of *object teaching* and oral instruction was a new departure in education. With the new methods the amount of ground gone over has also increased; the demand for brain pressure is as insatiable as the cry of the horse-

teach. Still there is a growing feeling that there is some defect or something wrong. The demand is urgent for a change. What shall it be? Surely we cannot suffer ourselves to retrograde back to the old methods of teaching. What we want to accomplish is to retain what is good in the present method and to prune out the evil. The problem is: What to do, and how to do it. First of all, everything that tends to over-work or unnecessary excitement must be abandoned.

Excessive activity with anxiety is not good at all, and ought to have no place in the educational process. "Much study is a weariness to the flesh," so Solomon told us centuries ago.

WORRY.

Worry is fatal to good work, and to worry the growing brain of a child with work is to maim and cripple its organization, doing irreparable, because structural, mischief, the effects of which must be life-long.

Tension in work is not a proof of strength, but of weakness. A well-developed and healthy-grown brain works without tension of any kind. The intellectual man with a strong mind does his work easily. Tension is friction. The best brain-work is made easy with a calm spirit, an equable temper, and in a jaunty mood. Men and women of great longevity are uniformly remarkable for good dispositions and an even temper.

Legitimate and normal brain-exercise tends to healthy growth and to longevity. The great majority of business men and clergymen who drop in the harness prematurely are broken down by worry, and by work. Men who pursue their occupation quietly and in peace of mind do not fail in the nervous system. They may take sickness from other causes, like other persons, but they do not break down in middle life with organic disease of the brain. There are abundant facts to prove what I am saying.

Let us take this clue, then, banish from the school-room all worry and all causes of worry. This ball will knock down at once two prominent pillars in the child's temple of learning, *competition* and *meeting*.

Do I hear some teachers say, I don't see how I could manage my school? Better dissolve the school, then, or the teacher. Look in upon the school; you will find these two influences are the

inspiration to ambition, excitement, and worry, all through the grades from the primary up to the high school. The excitement opens by giving cards to the pupil that answers the most questions, or makes answers the most promptly. Perhaps the teacher does not see the first hand raised; how can she, when a dozen come up together? Then there is jealousy and censoriousness.

I cannot conceive of a more unfavorable influence on the disposition and temper of children than the marking system as practiced in some schools. In the hands of a nervous teacher it is never fair or just in the minds of the children. A nervous teacher is liable to vibrate between extreme leniency and unjust severity. In such hands it is a perpetual rasping of tender nerves that ought not to be thus treated.

The cry of injured innocence is very common in many a family, and always will be under the marking system. Another objection to it is that the system imposes a heavy burden on over-worked teachers to make up their averages. A teacher in one of our large cities informed me that it sometimes took her five hours per day to make her school papers, but she would not mind that if it were not so useless.

The pride of the parents and the ambition of the teachers demands an increase in requirements both in quality and quantity. I am informed that the standard in our public schools is higher now than it ever was before. The evil is recognized and fully admitted all along the line, but I have thus far failed to learn of any effective remedy to lessen it, except a few industrial schools which have proved a most decided success.

A great effort is now being made to simplify the studies and make everything attractive, to come as near play as possible. The exercises are made short, with the idea of securing rest; to secure easy government, and prevent play and mischief, a constant effort is made to keep the mind all the while occupied.

PSYCHOLOGY OF BRAIN-WORK.

Let us look at the physiology of brain work. We know very well that exercise of the muscles causes an increase of the blood, and consequently increased nutrition. Look at the blacksmith's arm while at work; the veins swell and stand out like large cords, larger in the hammer arm. By use that arm becomes much

larger than the other. Exercise in any particular organ increases its growth by supplying more blood to it.

Not long since I was in a primary school near the close of the exercises. I was asked to see how busy, how intently interested the children were. I had already noticed it; they were as intent on their work as a swarm of bees around the first spring flowers. I also noticed another thing: their faces were flushed with excitement, the veins were distended with blood. There is the over-pressure we hear so much about, there it is; it shows for itself, we need to look no further. The more you interest your children the more blood you throw into their delicate veins. The blacksmith even can throw too much blood into his arm, or he may continue the process too long. Then comes exhaustion instead of nutrition. The over-worked horse loses flesh, and by and by strength. Within certain limits, we increase size, strength, and capacity. Beyond that, it decreases weight, strength, and capacity. This is a law of animal life. The child is but an animal, and just as much more delicate than the horse as he is higher in the scale of organization.

As children are now being trained, I do not hesitate to repeat what I have often heard others say: that at fourteen years of age a boy who has had no other schooling than what the old-time district school gave, was in better condition to take a liberal education than the graduates of our graded schools. Under the old system one-half of the year was devoted practically to animal life. Beside this, a great deal of exercise and animal life was sandwiched in night and morning in the form of chores.

We discard the idea of the animal, and run our schools as we run our factories: the largest amount of goods must be turned out in the shortest possible time and at the least possible expense.

The better the school the greater the danger to the pupil.

If my physiology is correct, the children are much more likely to be injured in the hands of what you may call a model teacher than under the teaching of one who is dull and uninteresting. The methods of teaching have been constantly improving for the last twenty-five years so far as imparting knowledge is concerned, but as regards development, constantly and steadily deteriorating. It is high time we should make a new departure.

In conclusion allow me to say that with children under 12 years of age, one-half of the time now devoted to study should be

consecrated to physical labor or training. During the cold months give us an ample play or work room to each school, and in warm weather pleasant grounds out of doors. Then strength and vigor shall characterize the children of the coming generation.

To prove that work and education can go hand in hand I have only to refer you to the fact that we have had one president who was a nail splitter, another who was a canal-boy, and we have the memory of our own Eliza Burritt, who was famous the world over for having been able to speak in sixteen languages and could read easily fifty languages; he could draw an audience in Exeter Hall, London, equal to John Bright. Most of his literary attainments were acquired while he was at work daily in manual labor.

REPORT

OF THE COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

"Matters of Professional Interest" is a subject capable of very varied application. What phase of life is not of interest to the enlightened practitioner of to-day? The customs of society; the principles of hygiene; methods of educating the young; the habits and the kinds of labor; the purity or whittening of food; the management of the penal or almshouse institutions of our commonwealth; the anticipation and prevention of epidemics; the best method of treating our ordinary or household diseases; the increase or subsidence of certain diseases or their change of form; the relative value of newly introduced surgical appliances or articles of materia medica; a general elevation of the standing or proficiency of the medical profession; State medicine, so called, or laws as applied to governing the practice of medicine; all these are matters of professional interest.

The question at once arises in such an embarrassment of riches: To what particular department of this great profession shall your committee limit itself? In looking over copies of the "Proceedings" for the past years, we find that while from 1875-8 a study was made of typhoid fever, in 1879 of diphtheria, and in 1881 of pulmonary consumption, responses from the members of the society individually have been few, and that the bulk of matter has been interesting cases in practice. While these give interest and value to each number of the "Proceedings," we feel that the society should be known for its united efforts. Recognizing that most of the work must in any event devolve upon the committee, and willing to assume it, we have to the best of our endeavor tried at the same time to engage every physician in the State to work with us. Until our society is rejuvenated, we fear that this will be impossible. Our report this year is divided into two parts;

first, the consideration of some subjects on which we ask your thought, and if deemed worthy, your action; second, the review of the testimony you yourselves have given in response to our solicitation.

THE YALE MEDICAL SCHOOLS.

In his address before the society at its last annual meeting, the President, Dr. Nye of Middletown, in advocating the claims of the profession to the respect of the community, argued ("Proceedings," page 31): "As tending to secure this respect, and as a duty we owe the profession, that we should in all suitable ways advocate a higher standard of preliminary education on the part of medical matriculants." The action of the society by its vote following that address authorized the execution of papers canceling and annulling the articles of agreement between the President and Fellows of the Connecticut Medical Society and the President and Fellows of Yale College ("Proceedings," page 18). The maintenance of a medical college within our borders, especially of one connected with such an institution as the University at New Haven, with all the prestige which Yale has acquired with its centuries of existence and its wealth of wisdom, is a thing for which we ought to congratulate ourselves. That the Medical School of Yale is making laudable endeavor to raise the standard of medical education among us, is what the committee wish first to bring to your attention. They desire to excite your sympathy and to implore your help.

In this we are but following out the suggestion of Hon. F. J. Knapbury, who appeared in behalf of the Corporation at the last meeting, and an outline of whose remarks is given on page 31 of the last "Proceedings." — He urged the members of the society to acquaint themselves with what had been done to raise the standard of education at the Medical School within the past three years. — In brief the purpose is threefold: first, to graduate, not large classes, for "diploma mills" are an obloquy to our nation — not to make doctors, but to educate men in the fundamental principles of medical science; second, to establish a gymnasium where graduate students in law or the work may spend their years in original research; and third, to found a normal school of medicine where scholars may be fitted properly for the reproductive work of teaching. Recognizing that the secrets of the knowledge of

disease are not in the medical compendium, nor in the medical dictionaries, but in minute anatomy, physiology, and pathology, that its mysteries are revealed only by knife and microscope, and that object-teaching is the most efficient means of impressing facts, as the sight is the king of all the senses. — they employ autopsies, laboratory work, and clinics as the methods of carrying out these ideas.

That we might inform ourselves regarding the school before attempting to tell others, we questioned a member of the Faculty, one long identified with this society and desirous for its best interests.

He writes:—"About sixty autopsies are made annually, in presence of the students, on a corpse furnished expressly for convenient mode of instruction. The students are all gathered close around the body and study the effects of disease. Small specimens of diseased tissues are taken to the Pathological Laboratory, where the students of the middle and senior classes continue the study of the cases with the microscope. Microscopes are furnished for the use of each student in the laboratory. The juniors study normal tissues in the same way. In the dissecting-room the students have all the material they wish to dissect. There is no lack in that department. The Chemical Laboratory is open the entire college year, nine months, where the students learn chemistry by actual work. The Professor of Obstetrics and Diseases of Women has a clinic at the hospital once a week, and the students have a better chance to learn gynecology, and actually see the cases than anywhere else that I know of. We are getting all the illustrations we want in that line. The clinical illustrations in all departments are far greater than ever before in the history of the college. Though our entire number of students is small, we graduate as many as we did when our numbers were larger, and those who do graduate are all fine scholars. We do all we can to discourage uneducated men from studying medicine. We don't want any except such as are scholars and are determined to study. Those are honest facts. The professors are working for almost nothing. It takes all our means and more than all to pay the expense of our practical laboratory system of instruction. We need more money to pay salaries, if the professors did not receive a cent."

Such a position taken by any medical school, especially by one whose instructors are our own members, should be met with cordial support on our part. The Maculonian cry comes to every one of us, to those who have accumulated wealth, whether by accident or design, the call is for money; to all of us who have either our own sons to tread our paths or others sent to guide, the duty is to turn them towards the center of learning.

As an incentive to the student to enter the Yale Medical School we suggest that all hospitals, asylums, refuges, or other institutions of this State requiring resident physicians shall in their choice give the preference to graduates of this school, other things being equal. Of the members of the Connecticut Medical Society, 147 are graduates of the Yale school. But in this advance of standard the New Haven school stands almost alone, while the country is being annually flooded with doctors. So long as the strife between different schools is, which shall graduate the largest number,—so long as the salary of the teachers is dependent upon and proportioned to the number of attendance, just so long will the requirements for admission be low, the examinations not severe, only an occasional man refused a diploma.

ADVANCED MEDICAL EDUCATION.

The system of medical instruction as now pursued in most of our schools is a relic of the past and should give way to the more exacting demands of a later day. The profession of medicine is made too cheap by the "grab system." We are oppressed to-day by cheap periodicals, cheap condensation, compounds, and dictionaries to learn the science of medicine. Of course the standard is low, the purposes on all sides mercenary, and cheapness is not an element favorable to scientific progress. To every city and state these graduates swarm like emigrants from the ship. What remedy is there? What remedy have we? There are three, of which only one is available to the State. First, an endowment, public or private, for each college, which shall make salaries secure. This good fortune has come to some, but only one medical college has found a millionaire who loves it. Second, prevent by law the entrance of the unlearned into our medical schools. Why expect the mill to produce excellent flour of the highest grade, when no care is taken to select grain that will furnish such a product? He is best fitted for practical work who is most

thoroughly grounded in the principles and laws which underlie it, and no one should aspire to a place among the learned professions, unless he has employed all due diligence to justify his right and title thereto. Of fifty-eight colleges granting the degree of arts with 38,454 alumni graduating since 1825, nine and two-tenths per cent. studied medicine, twenty-one per cent. theology; nineteen and seven-tenths law, therefore only a small proportion of the graduates in arts study medicine; fewer than either law or theology. These are well authenticated facts on which we should seriously reflect. As President Porter well said in this city the other evening, "there is in these days a better understanding of the need than a young man who is to be anything should be developing his character in college. The general result is to make them men, sober, earnest, despising humbug, hating sham, contending honorably with one another. A college that is good for anything must make the boys learn to work at once on the spot, and do their best at the time." We therefore plead for college education in medical men. But Connecticut has only one medical college, and a majority of its physicians are graduates from schools of other states. The third remedy is to regulate the practice of medicine by law within the State, and your committee recommend that an attempt to accomplish this be made before the next legislature. True, legislation can never be in advance of public opinion. It follows, it is public opinion. A law that is opposed to public sentiment is a dead letter, or it is expunged. But we each have our own circle of influence, and in that circle we can uphold and maintain the principles here announced. A government wholly paternal is not popular with us, although we advocate the exercise of protection for every citizen in his struggle for life and success, so that he may not be interfered with by his neighbors. The tendency is to the *laissez-faire* system. Every individual and every enterprise is left to pursue its own natural course on the part of the government. This very policy gives the professor a place in the race for success. We get veneer instead of solidity, glitter instead of intrinsic worth, paste for diamonds, quackery, in labor mechanics, and all the industrial arts, and what is still sorer, sciolism instead of science, pretence for merit in those professions which are attended with high consideration on account of their close connection with man's spiritual, social, and physical needs. The creation of a healthy public opinion in regard to the rights of the individual,

will appeal to the honest pride of every man to seek himself for his calling that he shall become a master in his profession. Some of our sister states are already in advance of us in this matter, having passed laws such as have been alluded to, and with beneficial results.

Alabama has one physician to every eight hundred and thirteen inhabitants. A diploma from a medical college does not confer the right to practice. There is a State examining board and also a board in each county. The State board examination is quite rigid and there are not in consequence but few applicants before it. The holders of diplomas are examined by the county boards. Out of forty applicants in 1883 six were rejected. Those boards issue a certificate of qualification to successful candidates. On presentation of this certificate to the county probate judge, the holder becomes registered as a licensed practitioner. Registration fee \$1.00, no examination fee. There are punitive penalties for practicing in violation of this law, which has been in force since Feb. 3, 1879, with the hearty co-operation of the profession of the State. It has proven an efficient bar to quackery.

Arkansas has one physician to every five hundred and seventy inhabitants. No one can begin practice in this State without a certificate of qualification which is granted by the county board of three medical examiners in the county in which the applicant wishes to practice. Examination fee six dollars. Having received a certificate, the applicant registers with the county clerk and becomes a legal practitioner. Registration fee one dollar and fifty cents. The members of the county examining board of each county are appointed by the county judge. As a consequence many of the boards are composed of the very men it was hoped the law would exclude from practice. There is a State board composed of five appointed by the governor, to which a person rejected by the county board may appeal. But generally those failing before a county board, go to another county, and still another until they pass. The law has been in force since July, 1881. The profession did not expect much from it, but hoped that it would be a basis upon which a better law would be built.

California.—One physician to every four hundred and sixty-seven inhabitants. A diploma or license from a legally chartered medical institution in good standing is required. There are three State examining boards, a regular, an eclectic, and a homeopathic,

each appointed by the State society of its respective school. The duty of these boards is to examine the diploma or license of applicants, and if found legal and satisfactory, a certificate is granted. This certificate must be recorded in the office of the clerk of the county in which the holder resides. Examination fee, five dollars, when the diploma is found genuine and satisfactory; if fraudulent or not lawfully owned by the holder, the board shall be entitled to collect twenty dollars. If an applicant is rejected, he cannot appear again before the board which rejected him or any other within one year. This law has been in force since 1874. It does not give entire satisfaction, and some of the boards have licensed many who were entirely unqualified to practice medicine.

Connecticut.—One physician to every five hundred and seventy-five inhabitants. The medical tramp law, so called, is the only restriction. This law has been enforced in some of the cities and has worked well. It has been a very effective bar to transient quacks. We recommend its enforcement throughout the State. This can be done by any of the officers of local medical societies or by committees appointed for that purpose.

Delaware.—One physician to every six hundred and seventy-five inhabitants. The board of medical examiners is appointed by the State Medical Society and is composed of as many members as the society sees proper. It has power to grant licenses to persons holding a diploma from some medical college authorized to grant diplomas, or to persons who shall upon full and impartial examination be found qualified for the practice of medicine. Registration with the county clerk is required. Penalty for non-registration, ten dollars. Law passed April 1881.

Florida.—One physician to every seven hundred and twenty inhabitants. "Graduates of medicine" are allowed to practice. There are six medical examining boards located in as many different cities. Their duty is to examine persons not graduates of medicine, who propose to practice within the State. To those found competent a certificate is issued, which certificate shall be recorded in the office of the clerk of the circuit court of each county where the person receiving it may practice. Five dollars may be charged to be paid upon receipt of certificate of competency. The law was approved March, 1881. The general revenue law provides that lawyers, doctors, dentists, druggists, and photographers shall pay a license of ten dollars annually.

Georgia. — One physician to every seven hundred and seventy-six inhabitants. The law recognizes only a diploma from an incorporated medical college, medical school, or university, and by registration with the county clerk. This law has been in force since Sept., 1841.

Illinois. — One physician to every five hundred and eighty-two inhabitants. The law of this State requires a diploma from a medical college in "good standing," or that the applicant be examined by the State Board of Health. The vigorous execution of this law is the secret of its great success. The Board of Health has the power to determine what colleges are in good standing, and the requirements of this board have done much to raise the standard of medical colleges in this country. Out of five hundred and thirty-six persons examined, four hundred and forty have been rejected.

Iowa. — One physician to every five hundred and thirty-one inhabitants. Cities have the power to regulate, license, and tax itinerant doctors, physicians, and surgeons.

Louisiana. — One physician to every nine hundred and nine inhabitants. A diploma from a regularly incorporated medical institution of respectable standing is required. The State Board of Health is to decide whether or not any medical institution is of respectable standing without regard to its system of therapeutics, and whether the same be regular, homoeopathic, or eclectic. Registration with the parish clerk is required. It is the duty of the State Board of Health to publish annually in the official journal of the State, or in one of the daily newspapers published in the city of New Orleans, a list of all registered physicians and surgeons, and their places of residence. This law went into effect January 1, 1882.

Michigan. — One physician to every five hundred and sixty inhabitants. A law which went into effect Sept. 7, 1883, requires a diploma from any legally authorized medical college. An undergraduate can practice with and under the instruction of a legally-authorized practitioner. Registration with the county clerk is required.

Minnesota. — One physician to every eight hundred and fifty-four inhabitants. A law went into effect Dec. 31, 1883, requiring a diploma or license from a legally chartered institution in good standing, or that the applicant pass a satisfactory examination

before the board of examiners. Diplomas are verified by the board of examiners. If the diploma is found to be genuine, a fee of one dollar is charged; if fraudulent, the board may collect twenty dollars from the applicant. A certificate is issued by the board to each successful applicant, which must be recorded by the county clerk. Examination fee, five dollars. Students may prescribe under the supervision of preceptors.

Mississippi — One physician to every six hundred and twenty-three inhabitants. Diplomas are not recognized. A board of censors composed of two sanitary commissioners is formed in each congressional district, who examine into the qualifications of applicants for license to practice medicine. Examination fee, five dollars. Persons failing to pass may appeal to the secretary of the State Board of Health. The law took effect February 25, 1882.

Missouri — One physician to every four hundred and seventy-six inhabitants. The law is similar to Illinois, and passed July, 1883. A diploma or license from a legally-chartered medical institution in good standing of whatever school or system of medicine, or a successful examination before the State Board of Health, is required. Registration with the county clerk is necessary.

New Hampshire — One physician to every five hundred and sixty-seven inhabitants. Every medical society organized under the laws of the State is directed to elect a board of censors. These boards decide upon the genuineness of diplomas presented and the merits of the institutions issuing the same, and examine applicants not holding diplomas. A license is issued to persons presenting a satisfactory diploma, or passing a satisfactory examination. Examination fee, five dollars. Verifying diplomas, one dollar.

New Jersey — One physician to every seven hundred and nine inhabitants. Every person practicing medicine or surgery in this State, in any of their branches, for gain or who shall receive or accept for his or her services any fee or reward, either directly or indirectly, shall be a graduate of some legally-chartered medical college or university in good standing, or some medical society having power, by law, to grant diplomas, and such persons before entering upon said practice shall deposit a copy of his or her diploma, with the clerk of the county in which he or she may reside or reside, and shall pay said clerk ten cents for filing the

same in his office; said copy to be a matter of record, and open to public inspection. The State Medical Society is authorized to grant the degree of M.D. The candidate must be twenty-one years of age, of good moral character, have studied medicine under a regular practitioner, and attended two courses of lectures at some medical institution in affiliation with the American Association. The examination must be in the presence of the society at a regular meeting.

Utah. — One physician to every five hundred and two inhabitants. The law requires that to practice medicine within the State, a person must have attended two full courses of lectures and graduated at a school of medicine, or received a certificate of qualification from a State or County Medical Society. Sec. 6513. Whoever while in a state of intoxication, prescribes or administers any poison, drug, or medicine to another, which endangers the life of such other person, shall be fined not exceeding one hundred dollars, and imprisoned not more than twenty days. Sec. 1815. Whoever prescribes any drug or medicine to another, the true nature and composition of which he does not, if required of, truly make known, but avows the same a secret medicine or composition, and thereby endangers the life of such other person, shall be fined not exceeding one hundred dollars and imprisoned not more than twenty days. Sec. 6930. Whoever uses upon another an anæsthetic, unless at its administration and during the whole time the person is wholly or partly under the direct influence of it, there is present a third person competent to be a witness, shall be fined not more than twenty-five nor less than five dollars.

Pennsylvania. — One physician to every six hundred and eight inhabitants. A law was passed at the last session of the legislature, which is to take effect on the first day of Sept., 1884. It creates a corporation called the State Board of Medical Examiners and Licensees of the Commonwealth of Penn. There shall be appointed by the governor a State Board of Medical Examiners and Licensees consisting of nine members, three of whom shall serve for one year, three for two years, three for three years (terms to be decided by lot). They shall be graduates of some legally chartered college or university having the power to confer medical degrees, who shall have practiced medicine or surgery for a period of not less than five years, but none of whom shall be members of the faculty of any such college or university. Provided that in

the appointment of and board seven members shall be chosen from a list of twenty-one names submitted by the Medical Society of the State of Penn., and two members shall be chosen from a list of six names submitted by the Homoeopathic Medical Society of the State of Penn. In default of the submission of such lists, by either of said societies, the governor shall appoint. A copy of this excellent law has been sent to the committee by Dr. John H. Roberts of Philadelphia, who was largely instrumental in its adoption. We suggest that its terms with proper modifications be presented in our form to our next legislature.

South Carolina.—One physician to every one thousand and eighty-four inhabitants. A diploma is required, and if it has been issued by an institution outside of the State, it must be endorsed by the faculty of a college within the State, or the Medical Board of the State, which is composed of the members of the county boards of health, each local board having jurisdiction within its county. Registration is required. This law has been in force since December, 1881.

Vermont.—One physician to every five hundred and four inhabitants. Sec. 3363. Medical societies organized under a charter from the general assembly shall, at each annual session, elect a board of censors, consisting of three members, who shall hold their office until others are elected, which board may examine and license practitioners of medicine, surgery, and midwifery. Sec. 3316. A person not a resident of this State, who has not received a diploma from a chartered medical college, shall obtain a certificate from a board of censors in this State, before he shall be permitted to practice the medical art in this State.

Virginia.—One physician to every seven hundred and ninety-six inhabitants. A law went into effect January 1, 1885, requiring an examination before the State Board of Health, applying to persons beginning practice after that date.

West Virginia.—One physician to every five hundred and ninety-four inhabitants. The law has been in successful operation since March, 1882. Every graduate of a reputable medical college must present his diploma to the State Board of Health, or to two members thereof in his congressional district. If the diploma is genuine and satisfactory a certificate is issued which with the diploma shall entitle the holder to practice medicine in that State.

Non-graduates will receive such certificate after passing a satisfactory examination. Examination fee, \$10.

Wisconsin. — One physician to every eight hundred and forty-nine inhabitants. Sec. 1436. No person practicing physic or surgery or both, shall have the right to collect in any action in any court, fees or compensation for the performance of any medical or surgical service, or to testify in a professional capacity as a physician or surgeon in any case, unless he shall have received a diploma from some incorporated medical society or college, or shall be a member of the State or some medical society legally organized in this State. Medical societies are empowered to issue diplomas. There is a law prohibiting any but legal practitioners from assuming the title of Doctor, M.D., etc.

For these details of the legal medicine of the several States, we are greatly indebted to the *Medical World* of Philadelphia, whose editor, Dr. C. F. Taylor, very kindly and at great inconvenience to himself, furnished them to your committee for this report.

Thus we see that twenty-two of the sisterhood of States, besides some territories, have a public sentiment in advance of us. It is time that we took the step. In 1883, Dr. R. W. Griswold of Rocky Hill, at that time a member of the legislature, introduced into the assembly a bill to regulate the practice of medicine within this State. The Medical Tramp Law, so called, passed that year, took the precedence. In 1883, Dr. Griswold again introduced House Bill No. 283, entitled — "An Act in relation to the Practice of Medicine." We recommend united action in an attempt to introduce within our limits a statute of similar purport.

CIVIL SERVICE FOR HEALTH OFFICERS.

One further recommendation we make under the head of State Medicine. Health officers are being appointed in all our cities and towns. To scarcely any official is more power delegated than to him. His duties are of the nature of police, and he is empowered to enter at any time our homes and places of business, to enforce compliance with his requirements. It is therefore of the greatest importance that men should be well chosen, such as will command the respect of their constituents. There is no better way of selecting health officers than by competitive examination. Chapter 354 of 1883 as amended by Chapters 357 and 410 of 1884, contains the Civil Service Statutes of the State of New York, appointing a

Board of Civil Service Commissioners to frame rules for the examination of all State officers. The courts have decided that local Boards of Health in that State come within the meaning of State officers, and, therefore, all the employees of such local boards are subject to the civil service rules. Your committee suggests the adoption by law of such an excellent system for Connecticut.

NEW REMEDIES.

It was not until the early autumn, after the meeting of the State Medical Society, that the Committee on Matters of Professional Interest could decide on the best method of enlisting the co-operation of the physicians of the State, or the subject on which they should exert their efforts. A previous action of the society indicated it. In 1883 a special committee had been appointed to investigate new remedies ("Proceedings," p. 193) and so important was the matter deemed that at the same time the plan was expressed of making that committee a permanent one. At the meeting following, 1884, no report was rendered. Your committee, feeling that this expression of the society invited them into the same field, decided to take up the work of the Committee on New Remedies. Feeling that the designation of the medicines was a matter of some consequence, we sought the advice of Dr. T. H. Russell, Professor of Materia Medica in the Yale Medical School, as the most proper person to whom to apply. Prof. Russell at once approved the plan and mentioned five drugs, from which we selected the three named in the circular of September 22d last. The committee met with Dr. Grassie in Old Saybrook; the questions were formulated, and definite plans made. Recognizing that the remedies were comparatively new and could not possibly be had excepting in our large cities, circulars were sent to all the leading pharmacists of the country and to some of the medical journals. This was simply to acquaint them with our purpose, and not the slightest partiality was intended or shown. Disposition on the part of a few manufacturers was manifested to render the aid without which we could accomplish little. One firm however, with a zeal which we deem commendable entered into the plan, and at a large outlay generously furnished to as many physicians as were willing to receive them, samples of *Cassia Sagraea*, of *Convallaria Majalis*, of *Piscidia Erythrina*, made of the strength and in the manner prescribed by the United States Phar-

menopæsia. The *Oestras* were to be and were in the form recommended by Prof. John V. Schoemaker of Philadelphia, a recognized authority on that particular subject. Of these circulars of announcement, your committee sent out in September last, about five hundred. On the 16th of April of the present year, as had been determined, about four hundred and seventy printed postal cards, calling for your replies, were issued. A few members only responded, so that again, in May, it was deemed advisable to urge the dilatory ones, and four hundred more cards were sent. Writing nearly fourteen hundred addresses, with about one hundred private letters, itself no small task, is only a part of the manual work of your committee. About seventy replies were received. These are of all kinds, from the simple announcement that the circular had been mislaid, to the elaborate and satisfactory report. The committee planned to have these reports sent directly to themselves, leaving to the several county reporters the work of gathering interesting cases in practice, histories of prevailing local epidemics, and such other facts as they had been accustomed to collect.

But the startling fact is patent that there is great apathy and indifference to collective work among the members of the Connecticut Medical Society. Your Committee have done all that lay in its power and cannot take any more. To present the details of your replies as a tabulated list is a by no means easy task. Some are of experience with but a few patients; one physician embodies two hundred in his. It is impossible to tell how many cases the replies represent or with what care the observations were made—we give the replies impartially.

CONFALLARIA MAJALIS. (Lily of the Valley.)

The greatest number of replies to any one question on this drug is fifty.

Answers to question No. 1. Preparations used have been divided between the preparation and the maker. Some have stated simply *Lilid* extract, which is too indefinite, as both root and flowers are used. Of preparations, twenty-two name simply *lilid* extract, seven *lilid* extract of the Bowers one pill. Of manufacturers sixteen were from Parke, Davis & Co., three from Messrs. Schiefelin; from Messrs. Turbutt, Wyeth, Thayer, and Burroughs, one each.

Question No. 2. The most frequently mentioned dose is grt. v. = x. l. i. d.; the maximum grt. xv. = l. j. up to grt. xvj. every two hours.

3. Do you find any cumulative effect in digitalis? No, twenty-one; yes, nine; not very marked, one.

4. Do you find any cumulative effect in convallaria? No, thirty.

5. State comparative effects of convallaria and digitalis. Convallaria does not disturb the stomach as digitalis does and soothes the heart better. Digitalis, after a time, produces vomiting, cerebral and gastric disturbance; while convallaria works speedily with none of these symptoms. Convallaria is a milder remedy and can be used where digitalis is inadmissible. Convallaria produces a more rigid pulse. It acts more on the entire arterial circulation than on the heart as a center. Several say convallaria produces no diuretic effects; one thinks it a more efficient diuretic. A number find the action of the two similar, and one declares there is no comparison between them. grt. x. Fl. Kxi. Convallariae with grt. x. *Tinct. Cacti*, acted as a diuretic where digitalis had failed.

6. Purposes for which convallaria was given? All forms of cardiac affections; (a) valvular disease as insufficiency of mitral and aortic, with good results, giving tone and regularity. (b.) Organic diseases as hypertrophy, dilatation and fatty degeneration. In hypertrophy it equalized the force and diminished the frequency of the beat. In fatty degeneration (one case) it worked badly, causing dizziness, tremor, and dimness of vision. (c.) Sympathetic disturbances as palpitation, weakened heart from hemorrhage or shock, cardiac weakness with intermittent pulse, irregular action due to anemia, nervous irritability of heart's action, nervous prostration, oedema of the lungs. As a tonic to strengthen the heart's action in debility it reduced the pulse from 108 to 78.

7. Does it disturb the stomach? No, seventeen; yes three; sometimes, three; same as digitalis, one.

8. Some conclusions arrived at from different observations are: It is much more uniform in its results than digitalis, and I like it very much; it is less certain than digitalis; digitalis is more reliable; a grand remedy; prefer digitalis; none unpleasant to take these digitalis; of value in certain conditions, especially cardiac dyspnea; it sometimes worked where digitalis did not; have been well

pleased with its action in cardiac disease when digitalis was (ineffectual; a valuable medicine; has value but not so reliable as digitalis; not so reliable as digitalis, but can be pushed further; may prove a good remedy, but will not suit all cases; more reliable than digitalis as a tonic, fully as efficient as a diuretic, less liable to nauseate, more uniform in results, fluid extract of flowers, a most reliable remedy to control the heart's action; a tonic on the fibres of the heart; has a limited sphere of action; digitalis in large doses preferable; inferior to cactus in stimulating the heart; a worthless remedy; pleased with it when digitalis has proved ineffectual.

It would be difficult to displace digitalis in the estimation of the physicians of the world. But it does not meet the requirements in every case. One thing we wished to determine: in the light of the present day has it any stimulative effect as has heretofore been attributed to it? The testimony is, decidedly no, and from physicians who have used it in large doses. *Convallaria* many times does what digitalis will not. It is a valuable remedy. Those who have given larger doses at longer intervals have had better results than they who have used the small dose frequently repeated. No medicine can have had a thorough trial in the time allotted to this, and we suggest that its merits be investigated further.

POICINA ERYTHINA. (*Jamaica Dogwood*.)

It might be deemed a work of supererogation to attempt to find a substitute for opium. But many patients cannot take that anodyne. In some it produces wakefulness, in many intense nausea and headache, in others an intolerable pruritus, in all constipation. What recourse have we then? It was with hopes of finding something which could be substituted where opium does not agree, that the committee selected *Poicinia* for investigation. Fewer answers have been received than for either of the other drugs, thirty-two being the largest number of answers to any question.

Question No. 1. The preparation used was the Fluid Extract of Parke, Davis & Co., excepting that two came from Messrs. Schiedteln, one each from Messrs. Tarrast and Wyeth, and one was in pill form.

Question No. 2. The doses have varied as follows, grt. xv. every hour until relieved, grt. xx-xxx. every two hours, f 3ss., f 3j.

hourly for three hours, $\text{f}\text{ʒj}$ every $\frac{1}{2}$ hour until six doses have been given, and single doses of one or two drachms.

3. Is it a hypnotic? No, seven; yes, thirteen.

4. In doses from $\text{f}\text{ʒss}$ – $\text{f}\text{ʒj}$.

5. Is it an anodyne? No, five; yes, five; to a certain extent, four; uncertain, two.

6. Does gr. xv. every hour, $\text{f}\text{ʒss}$ every two hours for five doses, or single doses of $\text{f}\text{ʒj}$, or $\text{f}\text{ʒij}$.

7. Most of the physicians are not ready to name the quantity which may be considered dangerous; others have stated $\text{f}\text{ʒss}$, $\text{f}\text{ʒij}$, $\text{f}\text{ʒij}$, $\text{f}\text{ʒiv}$.

8. Can it be substituted in any way for opium? No, seven; yes, eight; yes, when opium cannot be taken, three. Other answers are yes, in Bronchitis, yes, in teapainful doses two or three times a day; good substitute as an anodyne especially in neuralgia; in nervous cases possibly; in simple anoxia of worry or nervousness; not a substitute, but secondary.

9. Is it effective as a cure for the opium habit? Six say no, sixteen have had no experience and cannot say; one says no medication is, to much extent.

10. Has it any sedative properties? No, fourteen; yes, two.

11. Has it any unpleasant after effects? No, seventeen; sometimes, four, produces nausea when given in doses of $\text{f}\text{ʒij}$ every two hours.

12. Some conclusions arrived at from different observations. Two say entirely worthless; is a hypnotic, if pushed, of value where there is an individual idiosyncrasy against opium, especially valuable in children and cases where opium and morphia cannot be given; unsatisfactory result; am inclined to give it a permanent place in my case; unsatisfactory; a valuable addition to our drugs; good substitute for opium when there is loss of sleep, nervous restlessness, etc.; regard it as an improvement on opium; does not amount to much; good as a placebo, very satisfactory in the bronchitis of children and adults gave success in influenza where all other remedies had failed; a powerful drug but its field of usefulness is limited; its action is similar to opium but it is not applicable to so many morbid conditions, and will not as certainly relieve pain. Opium is much more liable to produce headache, nausea, syncope, and other disagreeable symptoms than picrodina. Picrodina dilates the pupils. In some respects it affects the cerebro-

spinal system after the manner of belladonna. It promotes secretion from the skin and mucous membranes, while belladonna produces dryness and itching or tingling of these tissues.

Paridis Erythrina is the least known of all the remedies tried. There is no literature regarding it. It is at the start supposed to possess dangerous properties and it has generally been used in too small doses. It is seen that two drachms have been repeatedly given without bad results, but it should be watched. We would like to see further trial made. If there is anything which can even partially do away with opium, its bad after effects and its danger of causing opium eating, its discovery will be a great boon to human kind.

Cassara Samana.—(California Buckthorn.)

Cassara has been used for four or five years by some of the physicians, and is more familiar to the general practitioner. The testimony is quite general, some of it covering the period mentioned. Forty-seven employed the fluid extract, twenty-two the cordial, seven the solid extract. Most of these were preparations of Parke, Davis & Co., Ltd. three were from Messrs. Schiedelin, three from Wyeth's, two from McKesson and Robbins, and each from Messrs. Thayer, Towner, and Carroll, Hammet & Co.

2. Doses of the fluid extract, gr. xv-xx, t. i. d.; of the cordial t. j. night and morning, to t. ss. morning and evening; of the solid t. j. t. i. d.; of the solid extract gr. ii. at night.

3. Is it an aperient? Yes, forty-one; one of the best ones.

4. In doses of the fluid extract gr. xv-t. j. ss. at bed time t. j. of the cordial continued, or t. j. ss. of the same, and of the extract from gr. ii-x.

5. Is it a cathartic? Yes, thirty-six.

6. Doses of the fluid extract t. j. ss. or as much as t. j.

7. Is it a cholagogue? The answers are nearly all of doubtful expression, a majority don't know, a few say no, about the same number yes.

8. Is its action particularly upon the lower bowels? Nineteen give some form of affirmative answer; ten say no or are undecided.

9. Is its effect diminished by continued use? No, twenty-four; yes, thirteen.

10. To what extent can it be relied upon as a cure for habitual constipation? Not efficient, four; not permanent, three; has cured

same; valuable, sure; valuable if combined with proper diet and regular habits of defecation; to a large extent, very effectual; satisfactory; not reliable; very effectual; never knew of a case being cured; only as a help; only in cases of no long standing; have never known habitual constipation to be cured by drugs alone; its spicuous action is superior to anything we have; regard it favorably; does not give satisfactory results in obstinate cases; one of the best remedies; only a palliative unless used with other means; have seen many cases of long standing completely cured, while in others it has failed to relieve; one of the best remedies we have in habitual constipation; not reliable, but will cure in certain cases; successful combined with hygienic measures; the best remedy I have used; do not think it a specific, but a very useful adjunct; in some cases it has worked like a charm where nothing else availed; enough so to justify the hope that in many cases it may afford a lasting and satisfactory relief; of value but not infallible; about equal to preparations of senna; the most efficient remedy I have ever used for the purpose; a useful tonic laxative; I think it is our best means of overcoming the constipation which depends upon intestinal indigestion; is more or less associated with inaction of the liver; as good as anything.

11. Does it interfere with digestion? No, thirty-seven; yes, two; it helps digestion, two; doubtful one. Not often, unless the peculiar bitterness of the extract is nauseous. Combined with one of the malt extracts, the least objectionable mode of administration. It positively aids the digestive processes which take place within the duodenum. "I think that cascara has permanent efficacy in constipation by promoting the biliary secretion, and by imparting tone to the muscular coat of the entire intestinal tract."

12. Does it cause griping or unpleasantness at stool? No, twenty-five; in about one third my cases; yes, five; if given in too large doses six.

13. Conclusions arrived at from different observations. The codial is an acceptable laxative. The fluid extract is not different from senna, except that it is more disagreeable to the taste. A good cathartic for occasional, not constant use, generally a gentle but efficient laxative for habitual use. The codial is good for children and a mild laxative. Have cured habitual constipation where other drugs have failed. A valuable remedy in constipation. One of the best remedies known for habitual constipation.

and that following child-birth. The best drug we have as an adjunct in the cure of constipation. The cordial is a pleasant form of administering a mild laxative to children and adults. A valuable adjunct for constipation, especially in the aged. As efficient as any other remedy. Have used it with gratifying results in the constipation of old people. A pleasant, mild laxative, filling a long felt want. Its special use is indicated in hepatic conditions. Very unpleasant and nauseous. It relieves habitual constipation and is an excellent means of breaking off the habit of using compound cathartic pills and other ill of like nature. One of the most valuable "new remedies" introduced for many years. I have not any report of evil from it at any time. The cordial is agreeable and effective for children. Am using it in preference to harsher drugs. As a laxative there is no drug more agreeable in action. As an aid to the cure of habitual constipation it is invaluable. Have found it extraordinarily useful in entirely preventing the unpleasant after-effects of morphia. Exceeds any remedy I have used in chronic constipation. A valuable addition to our materia medica. Its use in the solid form is preferable. A safe aperient and it can be continued without injury. A good aperient; convenient when pills cannot be taken. Empties the whole bowels without trouble. In hospital practice patients request it, because of its effectiveness. It requires a large quantity, and costs too much. Fifty per cent. of cases have been cured in from three to six times treatment. A very efficient tonic-laxative which does not need to be increased in quantity. A valuable addition to the list. I have used it in hundreds of cases and always with gratifying results, with an exception of about one case in twenty or thirty in which it has not been tolerated by reason of gastric irritation or griping of the bowels. In certain cases it will do its work to perfection, in others it is apparently inert. Am not prepared to prefer it to some drugs already at our command. Am pleased with it, although like most ecceprotics it needs to be repeated. I have formed a very favorable opinion of it as a laxative in the constipation of aged and feeble persons. Not very pleasant to take. The fluid extract is too disagreeable to be tolerated by many of my patients.

REMARKS.—The past winter I have used in sundry cases of sub-acute bronchitis characterized by dry persistent cough, torpid congested liver, constipation, deficient secretion from liver, etc. *FLUID EXTRACT* in *FSM* doses every four hours for a day or two, com-

bined with expectorants, relieved the symptoms promptly and effectually, producing free bilious stools without griping or irritation. Combined with nux vomica, one to three of cascara it is the best intestinal tonic I have found. I generally give

R. Ext. Cas. Fl. ℥ss
 " Hyosc. Fl. m. ii.
 Syrupi. ℥ss,
 M. and m i.

At bed-time, repeated in the morning if necessary.

A close analysis of the replies reveals the different susceptibility of different persons to the same medication and may explain success or want of it in those cases. Yet most of the opinions are so strongly favorable, so few are the contrary, the period of observation is for so long a time that we think *Cascara Sagrada* deserves a place in the U. S. Pharmacopœia. In no form does it cause an untoward symptom as do some of our much-used cathartics, and in some combinations it may be found to help digestion.

Dr. Russell, Professor of Materia Medica in the Yale Medical School, has made a series of investigations into the effects of these remedies, so thorough and careful as to be nothing less than scientific, and we are glad to embody his report in our own.

CONVALLARIA MAJALIS.—I have used the fluid extract made by Parke, Davis & Co., and by Henry Thayer & Co., and have found them perfectly reliable, prompt, and uniform in their action. I have used the fluid extract in doses of from twelve to twenty drops, repeated every six or eight hours, but think it quite safe to use larger doses in suitable cases. Have never noticed any cumulative effects from either digitalis or convallaria, and never expect to notice any, for I have used both agents continuously for at least five or six months without omitting a single dose, and no such effect has been noticeable. I feel convinced that if the interval between the dose is sufficiently long to permit of the effect of one dose disappearing by the time the next dose is administered, there can be no so-called "cumulative effect" noticed. If we repeat the doses of any remedial too frequently, the effects will necessarily be cumulative, but it is only a necessary result of giving a second dose while some effects of the first dose still remained to be added to that of the second. It is merely the mark of too large or too frequently repeated doses. Digitalis is thus not any more likely to be followed by cumulative effects than is aconite or veratrum

viride or other powerful drugs. Digitalis and convallaria are so nearly identical in their action that they can both be relied upon to fulfill the same indications. I am beginning to feel the same confidence in convallaria that I have in digitalis. I have used convallaria in the same class of cases of heart disease, both functional and organic, as indicate the employment of digitalis in both adults and children. The results have been satisfactory. The fluid extracts which I used were evidently so well freed from the resin that they in no way disturbed either the stomach or bowels. I feel convinced that convallaria is a remedial agent of great value, and should occupy a prominent and permanent position alongside of digitalis in our *Materia Medica*.

PIACIDA ERYTHROSA.

The preparation used was the fluid extract. In order to make a fair test I used one sample obtained from an agent of Henry Thayer & Co., another sample from an agent of Parke, Davis & Co., and one other sample from a drug store in New Haven, but manufactured by Parke, Davis & Co. I have used it in single doses of ℥j, ℥ij, ℥iss, and ℥iij, and in doses of ℥j, repeated every hour and one half or two hours until three or four doses had been taken. These doses are as large as any I have seen recommended by those who advocate the use of piacida. In order to avoid error I have never while using it prescribed any other remedy in combination with it. Have only given it to adults—not to children. Have tested the three above-mentioned samples in about twenty-five or thirty cases. The three samples did not appear to differ in any respect as to results produced. I cannot feel convinced that these samples possessed any power as hypnotics. In only four or five of the cases in which it was given did it appear to have any power as a hypnotic, and these cases were all suffering from pain before taking the piacida, and the light transient sleep which followed may have been simply a result of the slight temporary relief from pain produced by the drug.

As a hypnotic I have found it unworthy of confidence. In the majority of cases in which it was used the patients were surgical, and were suffering from moderately severe pain from a variety of causes, such as fractures, carious teeth, advanced hip disease, abscesses, etc. In most of these cases they reported that ℥j or ℥iss, repeated in two hours seemed to afford very slight but ansthe-

factory and brief relief from pain. Some of them were disposed to say much in favor of the remedy and none asked to try it again. In a few cases the patients were quite sure that no relief whatever was afforded.

In one case a very intelligent young woman had suffered from a moderately severe tooth-ache, which had been very uniform in severity for twenty-four hours before taking (3j) of fluid extract of *pisidia*. She was otherwise in perfect health and had taken no medicine previously. She reported that the *pisidia* did not produce the slightest variation in the amount of pain during three and one-half hours following its administration, and that finally after three and a half hours she was compelled to take a dose of *acetophia*, which I gave to her.

As an anodyne, therefore, it is unsatisfactory—at least in the doses above mentioned. Have found it perfectly harmless in doses of (3j) in adult patients. Have not given it in larger doses. Have never tried it as a stim for the opium habit. It does not constipate the bowels, but on the contrary has in a few instances appeared to have a barely perceptible laxative action.

In order to test the matter more fully I tried its effects on an advanced medical student in good health who took up quarters in my house for the purpose. After carefully removing all sources of error as completely as possible I gave him (3j) of *Parke, Davis & Co's* fluid extract and watched the condition of his pupils, mouth (as to increase or decrease of saliva), skin, pulse, temperature, and respiration every fifteen minutes for two hours, and being then called away he stood symptomless closely for two hours longer. Absolutely no effect was noted from the drug except that his pulse fell from seventy-two to sixty-eight one hour after taking the drug. His mind remained as clear as usual, and there was not the slightest trace of drowsiness. About twelve hours later he took a second dose of (3j) and five and one-half hours afterwards a third dose of (3j). No further symptoms were noticed except that his bowels, which were previously perfectly regular, became slightly relaxed after the second dose.

A physician, not a member of the society, could not after careful observation perceive the slightest effect in any respect from (3j) of *Parke, Davis & Co's* fluid extract of *pisidia*, taken by himself at my suggestion.

At my request six healthy medical students who had studied

medicine two years experimented upon themselves with single doses varying from ℥ssj to ℥ssj taken just after their usual six o'clock supper. They were instructed to carefully note the condition of pulse, respiration, pupils, skin, mouth, and bowels, especially whether it had any hypnotic effect or any cerebral action however slight. Both Parks, Davis & Co.'s and Thayer's preparations were used. They all took great interest in the matter, but all reported the samples furnished to be inert and without effect, excepting that in two cases the bowels were slightly loosened, and one man reported slight heart-burn and nausea, and very slight salivation. With these exceptions I have not noticed any unpleasant symptoms. They all failed to perceive any appreciable production of drowsiness during the four or five hours between the dose and bedtime, nor that they slept better than usual during the night. The drug appears to be a feeble, unreliable anodyne, but as a hypnotic it has in my hands proved a failure. Possibly in larger doses than ℥ssj it might do better. Having previously seen some reports favorable to the drug as an anodyne I continued the administration of *pasidia*, hoping to find in it a desirable substitute for opium but have been disappointed.

CASCARA SAGRADA.

I used samples of the fluid extract furnished direct from Parks, Davis & Co., and another sample of Parks, Davis & Co.'s purchased at a drug store in this city. Also used samples furnished by Henry Thayer & Co. Have used these fluid extracts in doses of ten to twenty-five drops every six or eight hours as a laxative, and in single doses of from m. xlr. to ℥ssss as a purgative. Have found the different samples above mentioned equally efficient and perfectly uniform and reliable, as shown by the results produced. It is a very valuable gentle laxative in doses of from fifteen to twenty-five drops three times daily, and in these doses produces no unpleasant effects of any kind whatever. It is a prompt and very reliable cathartic in doses of from m. sly to ℥ssss, generally acting efficiently in six or eight hours. Unless the patient is rather obstinately constipated a dose of ℥ssj or ℥ssss is pretty certain to produce from two to four soft, copious, rather "mushy" stools, attended with slight transient griping. If the dose produces four or five stools, the first two are moderately soft, and the last two or three very soft, but not quite fluid and just perceptible rectal tension

accompanies the last one or two stools. In several such cases the last one or two stools were colored with a small amount of mucus. It is not hydragogue in any of the doses above mentioned.

In order to get an accurate idea as to the character of the doses produced by it, I asked eight of the advanced medical students to notice carefully the consistency, color, frequency, and other characteristics of their stools as accurately as possible for three days, and, continuing their customary diet without variation, to subsequently notice the results of a single dose of the drug. Each was to take a single dose at bed-time. I arranged the doses so that I should get reports concerning ʒj, ʒij, ʒiiss and ʒij ʒ doses. Among these eight individuals were some who were habitually constipated, others whose bowels were previously regular, and others whose bowels were habitually slightly loose. One had been passing hard, very light, almost white, dry stools—one had been passing very dark, rather green, moderately soft stools. The stools of all the others were previously brown. The results of a single such dose at bed-time in each case was that within twelve hours it changed the black stools to a yellowish brown color, the white clay stools to a dark brown, and the stools of all the others to a yellowish brown color. At the same time it produced the purgative action before mentioned. In my own case a single dose of ʒj would change my yellowish brown stools to lemon yellow color. Thus a single dose of ʒj-ʒiij, caused the stools to become more yellow within twelve hours in all the cases noted. I do not think that its effects are diminished by constant use. I believe that in doses of from fifteen to thirty drops, given three times daily, it is an admirable remedy for habitual constipation. Much better effects are to be obtained from such doses than from ʒj, or ʒij, doses given less frequently. In none of the doses above mentioned have I found it to cause the slightest unpleasant symptoms, excepting that ʒiiss, to ʒiiss, doses produced slightly too free catharsis with slight transient rectal tenderness. The stools produced by moderate doses of it are so copious, soft, and unirritating that it must be well suited to cases afflicted by constipation with hemorrhoids, fissure of the anus, etc. It is a remedy of great value, and should occupy a prominent position in our *Materia Medica*.

THOMAS H. KERRILL.

THE OLEATES

have not been generally tried, but promises have been made to use them as opportunity offered. In the light of experience, perhaps the three drugs already reported were sufficient for study at one time. Your committee finds the subject of the oleates but superficially understood. We based our investigation of them on the authority of Dr. Shoemaker in his monograph referred to in our circular of inquiry. We cannot more than refer to it, yet we desire to call attention to some facts there found as covering our requirements for the preparation of these medicaments. "Oleates must not be considered merely as solutions of oxides in oleic acid, as previously described; for, according to our present views of chemical philosophy, they were nothing else as benzoates manufactured, but rather as definite chemical compounds or salts having no excess of either their acid or basic radicals. To speak of a five or ten per cent. oleate is quite as absurd as to do so of a five per cent. sulphate of quinine, morphia, or atropia, which we know to be compounds of a definite character." Yet we find in all the drug stores rows of bottles of oleates of ten or twenty per cent, so called. These are the old oleates which are mechanical solutions with oleic acid and not in chemical union. Oleates are or should be chemical compounds or salts of oleic acid, just as sulphates and phosphates are salts of their respective acids. The molecular or combining weight of oleic acid is high while the atomic weights of the metals are lower. Consequently the percentage of oleic acid in a normal oleate is much greater than that of the metallic base. Again, "the penetrating action of petroleum products into the skin is so feeble as to almost cause them to be excluded as such."

Dr. Hermann Hager, an eminent authority, in his work on pharmaceutical practice similarly says: The use of vasoline (cosmoline) is place of lard or an emollient in such mixtures which contain a remedial agent intended for absorption by the skin, is much to be discouraged, as vasoline (cosmoline) prevents the absorption thereof. Your committee believe that most of those who carefully tried the oleates make use of such as fulfilled the conditions specified, but we wish to point upon the difference between the true oleates and the mechanical mixtures, with reference to their use in the future.

Oxide of Mercury

has been used in the strength of ten parts in 100, gr. xx 3j, twenty and fifty parts in 100 and the pure oxide.

2. It is more readily absorbed than Ung. Hydrarg. without one dissenting voice.

3. Constitutional effects are more readily obtained than by Ung. Hydrarg., only one saying no.

4. The testimony is universal that it does not so readily soil the clothing and is consequently much neater.

5. A few say it will irritate the skin in some cases, or if long used.

6. Cases of syphilis have been (one primary, six secondary, two tertiary).

7. Nine cases of enlarged testicle.

8. Fourteen indurations.

9. Twenty cases of parasites.

10. Four of dislocation of the skin. Other forms of skin diseases in which it has been used are psoriasis, eczema, sycois.

11. Result and general conclusions. In eczema capitis and universale it caused rapid improvement. Has given good results in pruritus ani. In enlarged testicle, softening occurred after three applications. Tinct. Iodine and compression having previously failed. Effective in destroying parasites, equally efficacious with Ung. Hydrarg., much cleaner and more agreeable to the patient. Its results in connective tissue growths have been usually negative. In glandular enlargements it has given very good results. Syphilitic nodes have rapidly disappeared in conjunction with the Iodide. Have treated pleuritic effusions with it with very good effect.

Oxide of Zinc or Puzosin

has given good results in wealing, in which experience proves it to be its remedy, in erythema, in eczema. In scabiness and intertrigo of infants its results have been most gratifying. The following are some of the remarks regarding its use: Used in some forms of gonorrhea, but with very indifferent results. Dusted over eczema I like it very much. An admirable dressing for open surfaces. A oxymerian and effective application. Have used it at least a hundred times in eczema of the eyelids, any local inflammation of the skin, the suppurative and inflamed stages of eczema, acromial catarrh with coryza, all with good effect. Its use has given almost uniformly good results.

OLEATE OF COPPER AS DRESSING

By an oversight the typographical errors of these formulas were not corrected. They should have read *Cupri oleate* 7j, 5ij.

Vaseline. 3i℥, 3vi℥.

This preparation has proved to be almost a specific in cases where used but in greater strength than the above, one reply being: Much prefer formula.

R. *Cupri oleat* 5j.

M. *Vaseline.* 7ij. *S.* Apply night and morning. The most obstinate and long standing cases can be cured in a very few days.

OLEATE OF ARSENIC.

The extremely limited testimony is to the effect that it will destroy an itching surface, and scars on a tender surface, as the face, when the hard exterior has been removed.

In general the oleates are a great improvement on the old form of ointment. "The use of the oleates while an inmate of the N. Y. Skin and Cancer Hospital taught me to regard them in the abstract, valuable additions to the treatment of diseases of the skin." "Believe the oleates reliable and desirable forms for administering the medicinal agents. Have observed their antiseptic action and freedom from rancidity, think we shall find them a very valuable remedy."

To the ordinary practitioner the time for investigating the new has been too short. This is prominently true of the three last oleates, but it was as long as the committee could give. In such a pursuit, of course, old remedies cannot be disregarded nor treatment of patients made venturesome. Cases must therefore be selected which means much time or a large outlay. An esteemed ex-president of this society has said "To know whether a new remedy was really valuable it should be in use for one hundred years," and while we may be slow to add to our pharmacopoeia, we ought to be constantly watchful to drop off or to add, selecting each time the best of that which nature or art offers. We recommended that our successors on the committee continue a part of the same study during the coming year. All of which is respectfully submitted.

N. E. WORDEN, M.D.,	} Committee on Matters of Professional Interest in the State.
J. H. GRANNIS, M.D.,	
K. A. HILL, M.D.,	

HARTFORD COUNTY.

INVESTIGATION OF CONVALLARIA MAJALIS; ITS PHYSIOLOGICAL ACTION AND THERAPEUTIC USES.

REPORT OF GEORGE LUSSEY, M.D., FORMERLY OF TARRYTOWN.

PREPARATION USED: Fluid Extract of the root (Prepared by Parke, Davis & Co., Detroit; and Sholeff & Co., New York).

In reply to the question as to whether I have ever met a case of cumulative effect in digitalis, I have to state that I have not. I have given it in quite large doses for weeks in hydrothorax and oedema of the lungs, due to contracted kidney—third stage of Bright's disease,—and no evidence whatever of cumulative action was observed. I tried *convallaria majalis* in several cases of Bright's disease where there was valvular insufficiency, causing hypertrophy and consequent nodular perturbation, and in every case with excellent result, but I regret to state that I failed to find any diuretic effect whatever—otherwise I would have considered it an ideal digitalis, for it far exceeds digitalis as a heart tonic.

In regard to the comparative effects of *convallaria* and digitalis. *Convallaria* is a powerful heart stimulant, and tonic, increasing its frequency and augmenting its force, normal rhythm, and arterial pressure. Digitalis increases the heart's force, but in a much less degree than *convallaria*, and with subsequent enfeeblement and exhaustion—essentially the opposite effect to that sought—while in *convallaria* there is no depression after giving up its use—it is more heart tonic than stimulant.

Digitalis has active diuretic properties, while I have always failed to obtain any appreciable diuretic effect in *convallaria*—this latter fact diminishes its therapeutic value very much, for it can, therefore, never take its (digitalis) place.

Convallaria may be given in doses of from two to twenty-five drops of the fluid extract of the root, gradually increasing from the smaller to the larger doses. In over-doses there is a feeling of constriction of the larynx, of oppression about the heart, and tension within the head, so as to cause some alarm. Thirty drops produced the above-effects in my own case, which were soon relieved by small doses of acetate (the latter being a heart depressant), which I regard as an antidote in poisonous doses of *convallaria*. The fluid extract of the flowers I have found much less efficient than of the root.

I have not known *convallaria* to produce nausea and vomiting in a single instance; on the contrary, it has always seemed grateful to the

stomach—indeed I consider it stomachic. It also possesses antispasmodic properties. I have used it in several cases of cardiac disease, especially during a paroxysm in functional cases. In one of the latter cases I found the patient suffering severely from a rapid, weak, irregular action of the heart, precordial pain, and anxiety, and a great dread of imminent dissolution. I administered twelve drops of the fluid extract of the root, and in thirty minutes more, ten drops, and within three-quarters of an hour all the distressing symptoms had subsided, leaving the patient with quite a full, regular heart action of seventy per minute. It seems to have a special influence in correcting rhythmical error, and giving the heart a slow, strong, normal action. In slow heart of the functional variety it also acts most desirably, increasing the force and rhythm, and promptly relieving all the distressing symptoms.

In conclusion: *crataegaria* is a reliable heart tonic, raising its palpitation if above normal, and decreasing them if below, and always increasing the heart's force and rhythm. It has either very mild diuretic powers or is not diuretic at all. It is poisonous in over-doses, and therefore it should be given in small doses, gradually increased until the desired effect is obtained. It has given no evidence of cumulative effect in my hands.

POEONIA KERTSINA.—(Jamaica Dogwood).

PREPARATION used: Fluid extract (Parks, Davis & Co's). Dose from half a drachm to two drachms every three or four hours.

It is anodyne and hypnotic, in from $\frac{j\text{ss}}$ to ℥i doses. It has not met my expectations in cases of facial neuralgia. It has utterly failed as a substitute for opium or its alkaloids. It has a good effect in simple cases of lumbago accompanied with pain, but where pain exists from any cause it has no effect in two drachm doses three hours apart. It has no unpleasant after effect.

CASCARA SAGRADA.—(California Buckthorn).

PREPARATIONS used: Fluid extract and Cascara Sagrada Cordial, the former made by Schickelbin & Co., New York, and Parks, Davis & Co., Detroit, Mich.

Of the fluid extract, I gave doses from five minims to two drachms, according to the person and the effect desired. Of the cordial I gave from a drachm to half a fluid ounce. It is spiciferous; it is also cathartic, I have not observed any choleragogue effects in its use.

Its action seems to be more particularly on the colon. It seems to require a little larger dose after constant use for some time. It is the best laxative that I have yet used for chronic constipation. It does not gripe, nor does it produce any unpleasantness at stool. I have used it in quite a number of cases of habitual constipation since receiving the

request from your committee to investigate its virtues, and I am more than pleased with the results obtained.

In many cases where it has been prescribed the patients secure a supply and take it as occasion demands, enough to secure an easy discharge daily.

I have not used the different oleates enough to express an opinion thereon, but the others I have freely used, and carefully noted their action; besides I have experimented freely with them in my own case, as well as with other members of my family with the results above noted.

NEW HAVEN COUNTY.

New Haven, May 25, 1885.

To the Committee on Matters of Professional Interest:

I have to report that during the past year the county, so far as I know, has not been afflicted with epidemics of any of the contagious diseases. Measles, scarlet fever, and diphtheria have not been as prevalent as in former years, nor have they produced as serious results. Intermitent fever which has been quite common in New Haven for three or four years is making its appearance again this spring in the form of typical cases. In North Haven, however, in the neighborhood of the brick-yards the disease is endemic, and in this interval in which New Haven has had immunity, the brick yards have furnished cases constantly. Typhoid fever prevailed last fall more abundantly than usual and with a larger proportion of fatal cases. It has been a very easy matter in many instances to trace a contribution of this disease with a water-supply contaminated by sewage. Our cities are still abundantly supplied with wells which receive some of their contents from cow-pools and privy vaults located at distances of from six to twelve feet. And tenants are compelled frequently to drink this water notwithstanding that the landlords have been notified either by physicians or health boards that it is dangerous to health and life. It is a pity that health boards are not more heartily supported by the public in their efforts to rid us of such sources of disease.

March, as usual, has brought us a large supply of cases of pneumonia, and this year has excelled its late predecessors in the number and fatality of its cases. The cold, dusty, windy weather of March, 1885, has carried away by pneumonia many of the strong and healthy of our population. And contrary to classic literature many of the cases arose from colds or bronchitis which had been allowed to run on for several days or a week and then pneumonia set in. The upper lobes seemed in the practice of many to be more frequently affected than common, and perhaps this will serve to account in part at least for the increased mortality.

Antipyris has been used in some hands, but with no other effect than the diminution in temperature as claimed for it.

Among the new remedies introduced into therapeutics during the year, cocaine has already been universally and thoroughly employed. It might almost be said that it has already found a permanent place in surgery, though what its future in medicine may be it is still too early to state. It has been thoroughly tried by the physicians of this county with success in eye and throat affections and operations and, when compared with the unpleasantness of the taking of ether, is, when applicable, much to be preferred by the physician and patient.

Yours truly,

MAX MAILHOUSE, M.D.

County Reporter.

Doctor Mailhouse, Reporter for New Haven County.

DEAR SIR: In answer to inquiries by the Committee on Matters of Professional Interest I would inform you that my experience with the substances in question has not impressed me with any great respect for their therapeutic value. I have used *Juncus Degensii* very freely and do not consider it a reliable substitute for opium for whatever purpose or in whatever manner employed. The preparations of *Lily of the Valley* I have not had opportunity to use freely enough so as to give any valuable opinion about them. As to *Quercus agayana* I think it a good cathartic and better laxative, but there are many others as good and very much cheaper. I do not intend to employ it. The oleates I have used freely and with a wide range of application. I prefer ointments in which the respective salts which form the base of the oleates are used by admixture with lard or vaseline or whatever excipient I might wish to employ: not that the oleates have not done very well, but that the extemporized ointments have done just as well and are much cheaper, and allow the judgment of the physician, and the skill of the pharmacist more scope. As I do not think that matters of professional interest are confined to the therapeutic experiments which the committee have stepped out, I would report that in my practice pneumonia has been a very prevalent and very fatal disease during the present spring. During the month of April I have had under treatment thirteen cases of acute lobar pneumonia with eight deaths. Of these, four were pneumonias of apex with great nervous disturbance. The treatment seemed in no case to

produce any effect on either the course, duration, or ultimate result of the disease. Cases mild or severe that were treated in any way at all got well or died from intrinsic causes only. Antipyxin wherever used produced reduction of temperature better than anything I have ever used as an antipyretic, but the mortality does not seem to be affected by its use at all. Altogether, my experience with pneumonia this season confirms my view expressed some years ago that pneumonia is an essential fever, and that no treatment as yet devised produces any effect on the disease. I am sorry that the limit of time and space precludes any effort to give further details.

I am, sincerely yours,

H. FLEISCHNER.

LAPAROTOMY FOR OVARIAN CYST.

BY A. W. LEIGHTON, M.D., NEW HAVEN.

Mrs. C. B., æt. 55, mother of four boys—experienced the menopause normally at the age of 43. General health always delicate, but as good as usual last July (1884) when she first noticed that her abdomen was enlarging. In the following December she permitted a physician to tap her with a trocar at his office. Following this came peritonitis from which she was thought to be dying when I first saw her. At this time the tumor was aspirated, drawn strongly up against the precostal arch of the sacrum and was nearly fixed in position. The uterus was widely open. There was no evidence of recent or remote pelvic disease. I diagnosed circumscribed peritonitis about the site of the abdominal puncture, and ovarian cyst as the primary disease. Two weeks later she had recovered from the peritonitis, but suffered greatly from dyspnea and dyspepsia, and as she timely declined operative interference, I aspirated five quarts of fluid of the following description: S. Gr. 1010, pale straw color, flows like fixed tea,—is not sticky between the fingers,—no sedimentation at the end of twenty-four hours,—contains albumen.

The patient rapidly improved after aspiration, but the benefit proved only temporary. The left leg began to swell. The abdomen refilled. March 31, 1885, I aspirated antiseptically three quarts of liquid which was much thicker and darker than before. Again temporary relief gave place to extreme weakness, and, educated by experience, the patient finally submitted to the knife. Repeated examinations had established my diagnosis. I believed the pedicle to be the left broad ligament com-

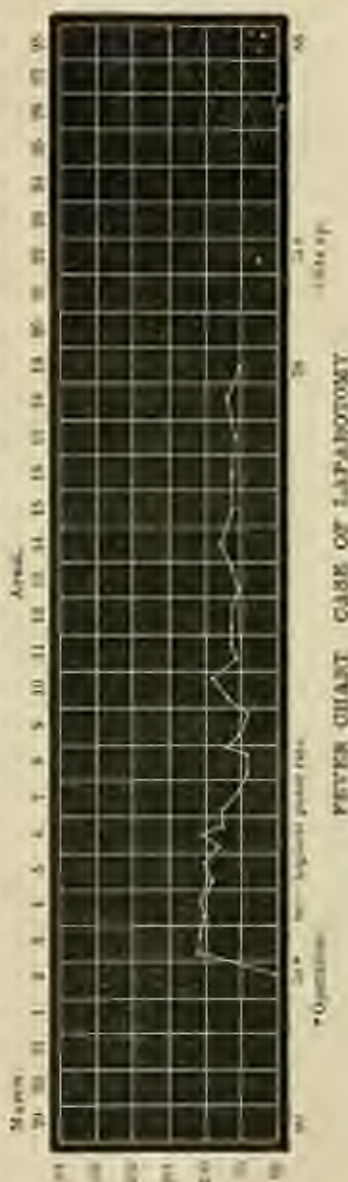
deliberately changed. The previous history indicated extensive adhesions at least anteriorly.

On April 24, assisted by Drs. Gustavo Elliot and Robert T. Morris I performed laparotomy and removed the cyst, finding the lesions as expected.

The operation lasted one hour and five minutes, and the patient made a rapid and complete recovery as is partially indicated by the referenced chart, where it is seen that she left her bed on the twentieth day. By the aid of a hypodermic injection of $\frac{1}{4}$ gr. morphia, anesthesia was maintained with less than six ounces of ether, and the patient slept quietly until evening. I employed strict antiseptic precautions and permanent dressings which were removed on the fourteenth day when everything was found healed and clean with no trace of pus. The patient is now attending to her household duties, and enjoying better health than for many years.

The planer—antiseptic precautions—is commonly used to express measures of a varied and often indefinite nature. In order to be more exact I will briefly outline the chief points attended to:

The operating room was thoroughly scoured a week in advance, closed from the rest of the house, and left to air with windows open and a hot fire. All necessary utensils, basins, tables, etc., were likewise cleaned and collected in this room. The patient took a bath the day before the operation, and fresh clothing and bedding were provided. All instruments, sponges, etc., were carefully cleaned,—in a word what may be called gross cleanliness was first of all secured.



As to special germicidal precautions all towels were prepared by prolonged boiling, soaking in bi-chloride of mercury solution,—sol. 1, and ironing. Sponges stood in glass jar of sol. 1, until the moment of using. All instruments were boiled in boro-salicylic acid solution,—sol. 2, dried with and wrapped in a prepared towel till the operation when they stood in sol. 2.

Early in the morning of the operation the patient's abdomen was shaved, the abdomen and navel cleaned with sol. 1, and a compress of the same held till the moment of cutting. The surgeon's hands were soaked in sol. 1, prepared towels freshly wrung out of sol. 1 were spread all about the abdomen before the incision was made, and the latter was irrigated with sponges dripping with sol. 2. When the sac was reached the lips of the wound were smeared with eubolized vaseline, the sac was slit open, the woman turned on her side and the contents allowed to escape. The sac was then packed with prepared sponges to facilitate handling and guard against leakage of contents. The pedicle was tied with stout vulcan soaked in oil juniper, and afterwards in alcohol, and two arteries were ligated with the same material, the stump being returned to the peritoneal cavity which was then cleaned with fresh sol. 2, and sponges.

The incision was closed with four sets of interrupted catgut sutures uniting respectively the peritoneum, linea alba, deep cellular tissue and skin.

The skin was then washed with sol. 1, and dusted with iodoform, a strip of protective silk being placed along the incision to prevent adhesion to the dressings.

Next came a drainage compress of bichloride gauze, then a layer of borated cotton, and finally a sheet of protective silk under a lightly applied abdominal bandage.

When these dressings were removed on the 14th day, the knots of those sutures that were tied externally lay loose upon the skin, all else having been absorbed. Two days later the cicatrix was felt to be solid throughout. The presumption is that after fulfilling their function, the pedicle ligatures were also absorbed.

In closing it may be well to note that an examination of the cyst wall revealed the fact that the site of my needle puncture was free from adhesions, contrasting strongly with the evidences of peritonitis set up by the trocar. In this case aspiration did much to prepare the patient for operation, besides very materially facilitating a correct diagnosis.

FAIRFIELD COUNTY.

ENCEPHALOID OF LUNG.—AUTOPSY.

E. SAUTER, M.D., THUNDERBOLT.

E. L., aged 26 years, was a young man of fair habits, well formed, and by occupation a professional ball-player. His mother, aged 60, is now living; his father died some years ago. Members of the family are healthy and there is no record of inherited disease. While actively engaged in a game last October, after having played through the season, and while running between bases, he was struck by a player, in the right side. He was a fleet runner, and the blow was a severe one. He was knocked down, and on recovering himself he spat about a teaspoonful of blood. He, however, finished the game in his impaired condition. From that time he began to have pain and distress located chiefly at the site of the injury, but at times more diffused over the entire side. This discomfort he endured uncomplainingly for some time, but was led, on its increase, to obtain medical advice. He sought the counsel of a young, although even now an eminent practitioner, who had won the "bullet reputation at the cannon's mouth," besides gaining much experience by army practice. His case was pronounced to be one of stretching of the nerves, and for it he was cupped. Anodynes were given for the pains which had now become considerable, and about the beginning of December he took to the bed which he never left alive. The attending physician, failing to give relief to his patient or for some unexplained reason, left him unattended for three weeks, and I was called on the fifteenth of January last. His condition I found much as follows: The patient had lost much flesh, being reduced from 140 lbs. to about 126 lbs.; the countenance was expressive of continued suffering. The right shoulder was elevated nearly two inches above the plane of the opposite one, the spaces between the ribs were bulging, the entire right side was fixed and immovable in respiration, and the same side measured from sternum to spine two and one-half inches more than the left. Just below the clavicle and to the right of the sternum was a prominence and reddening of the skin with slight fluctuation denoting pointing, with possible breaking through of pus or fluid. On percussion I found dullness front and behind, marked dullness from clavicle to flum.

Auscultation revealed absence of every physical sign excepting bronchial respiration. There was no fever—at no time did I find any deviation of temperature. The indications pointed unmistakably to a fluid within the pleural cavity. To add to this supposition was the fact, not previously mentioned, that the heart was displaced upwards and to the left. The history was one of phthisis, but in some way the spirit of

Escalopins whispered in my ear, neither serum nor pus is there revealed. In other words I had a presentiment that there was something unusual in the case. Indistinctly I sought advice; at the same time preparing to aspirate. I requested my friend, Dr. Werdn, to visit the patient with me, and assist in aspirating and diagnosis.

Aspiration would certainly be a help in diagnosis, if it did not bring immediate relief, though the latter object was the one directly sought. On Friday, January 19th, the day after my first visit, I attempted aspiration as follows:—Using the largest needle, about $\frac{1}{2}$ inch in diameter, I introduced it between the fifth and sixth ribs, in a line drawn perpendicular from the axillary space. Blood, small in amount, and frothy in character, was the result. Thinking that the apparatus might be plugged, after taking out the needle, water was made to pass freely through the tubing, and a second time the needle was entered, higher up and farther to the front, between the second and third ribs, in the anterior portion of the chest. This was as near the protrusion spoken of as our anatomical fears would permit us to go. The result, after thoroughly exhausting the reservoir, was no better than before. The case began to be interesting, almost embarrassing. But remembering other cases where defeat had been followed by victory, the former being our own, the latter that of another, and not willing to be outdone again, the needle was a third time introduced, and now at the posterior portion of the chest, between the fourth and fifth ribs. The blood did, this time, obstruct the needle, giving us an opportunity for retreat under the pretext of a broken apparatus. The poor fellow had borne the trying ordeal well, for his respiration was labored, his pains continuous, and he had not been able, since confinement to bed, to lie upon the left side, or to sit up for any length of time. During the operation he had had to assume either one or the other of three positions. The pulse was quickened very uniformly by the interference, so that it came to be almost imperceptible. He was a fellow of much pluck. He had been accustomed to appear on the stage under the pseudonym of one of the Anderson brothers whose wonderful performances in shooting have made them notorious. His brother tells me that once when his companion had made a mis-shot and hit his finger instead of the apple, unflinchingly he went through the program, giving no sign of the pain inflicted. We gave the patient *anodyne* and retired in good order to hold a council of war. We had obtained no serum, not a drop of pus, and less than a tablespoonful of blood. We had all the symptoms of a fluid in the pleural cavity, of which there can be but three kinds, and we ought to have ascertained some, had there been any quantity. But no. The symptoms were carefully studied to find a history of hectic hemoptizing pus. The little blood obtained led to the inquiry for aneurism. But while the blow might have caused one, the patient was young and not diseased, nor were the physical signs present.

But supposing the injury received two months previously to have been followed by rupture of an artery of the thoracic wall, and an effusion into the pleura to have followed. The learned Trepanner in his elegant lecture (XXXIII) on Traumatic Effusion of Blood into the Pleura—*Paracentesis of the chest*.—"Lectures on Clinical Medicine," vol. i, p. 631, discusses this very condition, and sums up in these words: "When blood is effused into the pleura, consequent upon a wound of the chest, coagulation takes place in a few minutes, so that to perform the operation for empyema with a view to remove the blood is as senseless as it is useless. Whether it be saction, the worst and most absurd of all the operations, or pumping out the blood (a still more dangerous proceeding, as it is a more forcible kind of saction)—whether simple tapping be resorted to, or whether an incision be made in an intercostal space, it will be impossible to withdraw the blood, on account of its coagulated condition."

It was by this time apparent that the case was no ordinary one, and we searched for more light. By appointment, Dr. Halstead saw the patient on the evening of Saturday the 17th, and suggested another trial at paracentesis with a needle of larger calibre, and the powerful exhaustor of Dieulafoy. In discussing the possibilities, that of malignant growth, which of course had been thought of, now came to the front, and it seemed to me certain that we were not dealing with a fluid, either articulated or diffused, but that we had an encysted, the result of an injury and starting from that unit. With the exception of the muscles, tendons, nerves, cartilages, ligaments, and aponeuroses, there is no part of the body in which encysted has not been observed. The age of the patient was one favorable to encysted. In ninety-one tabulated cases, fifty-two occurred in persons from twenty-one to fifty, and twenty happened from twenty-one to thirty. The disease is one of unusually rapid development, especially when caused by violence. The only unexplained sign in all the theories was the dullness on percussion above the flum on the right side. On Sunday morning the 18th, Dr. Halstead attempted (and very confidently) to withdraw fluid. He selected a needle of very large calibre, say $\frac{1}{4}$ inch. This he plunged deeply into the pleura, selecting the position prescribed by Bowditch—a line let fall perpendicularly from the angle of the scapula. Dr. Godfrey made powerful exhaustion of the aspirator, but no fluid was obtained in quantity, a little frothy blood was all that could be procured. This was examined microscopically and found to contain nothing abnormal. In the several operations it was noticed that the fluid flowed more freely when the pump was not working. The wounds in each case were closed with plaster, and now the patient was assured (an assurance he received with justifiable satisfaction), that he would be disturbed no more. The final result of the consultation was that nothing further could be done, and that the patient was beyond human relief. It was closely watched until the patient's pains were

ended on the setting of February 3th, at 11.30 o'clock. The voice had come to be only a whisper, the hand and arm were very edematous, the same being true of the other side to a slight extent.

The post mortem was made by Doctors Godfrey and Russell at three o'clock on the afternoon of the same day, less than four hours after death and before the warmth had gone. I am exceedingly indebted to these gentlemen for the skill, the neatness and the indefatigable labor with which they performed this important part of the diagnosis. In entering the thorax blood was found in considerable quantities. Whenever a bulging into space on the right side was opened, blood immediately flowed. The amount cannot be determined—perhaps three pints. The contents of the entire side was a solid mass, filling completely the natural cavity and enlarging it both above and below. The normal limit was encroached upon above and it seemed as if the entire shoulder had been pushed up to make more room. Below, the diaphragm was depressed, and the lower border of the liver was below the line of the umbilicus. Laterally the left cavity was encroached upon; the heart was found displaced as has been already indicated. Even the bones had felt the pressure, and had become denuded of periosteum, corroded, and very much impaired. Of especial interest was the spot of fixation near the sterno-clavicular articulation. It was seen to be made by a mass of cell-like or jelly-like substance, asher in color, somewhat globular in structure. Similar specimens were found throughout the mass. Encephaloid tumor, however, presents in most cases not a little variety of form or diversity of appearance and consistence. The entire mass was carefully taken out and preserved—a work of much care and labor. It could not be supported by its own weight, and so soft and brain-like was it that portions of it dropped off by their own weight. It was interesting to examine if the malignant growth had invaded other parts. The glands of the axilla were not involved, so that the edema must have been entirely caused by pressure of the mass. In the liver, upon which the cancer lay, separated only by the diaphragm, there seemed at first to be a spot of infiltration, but when the liver was taken out and cut it was found to be healthy in all respects. The intestines were not diseased, nor was any organ of the body. The progress of this malignant growth had been continuous and rapid, killing its vigorous victim in four months from the probable time of its inception. I speak of the time of its inception because of the theory now under study by eminent surgeons, that every malignant growth has its origin in some wound or direct irritation. In the cases of carcinoma or even of sarcomatous growth which have come under my care within my recollection, I am able to trace their beginning to the cause mentioned.

The dullness basal extending to the ilium would be explained when the depressed position of the abdominal organs was seen. There is no

explanation of the extension of that distress to the crest of the petri-
telson on the supposition that the tense and rigid condition of the
abdominal muscles may have prevented the cleavage ordinarily found.

DR. S. E. WOODEN,

Chairman of Committee on Matters of Professional Interest in the State.

DEAR SIR: I have not been favored with a single reply to the printed
list of questions sent out. As far as I can learn there has been an un-
usually great number of cases of proctitis in the various parts of our
county during the past winter and spring. Also a large number of cases
of fissures, and some of them of quite a severe type, being complicated
by erysipelas, especially in Danbury, and proctitis. I have seen a
number of cases of severe and obstinate eczema during the past year,
which I have treated successfully by fluid extract *succus alterans*,
McDade's formula. The fluid extract which I used was made by Eli
Lilly & Co. of Indianapolis. It is an alcoholic fluid extract of four dif-
ferent roots, freshly gathered,—*salix purpurea*, *stillegia syriatica*
(queen's delight), *lappa minor* (Barlock), *physalis peruviana* (poke-root),
and a tincture of *xanthoxylum meschinianum* (prickly ash). I began
giving a teaspoonful in water before meals three times a day, and grad-
ually increased to tablespoonful doses. I did not know at the time
that the remedy had ever been used for non-specific eczema, and wrote
to Dr. McDade at Montgomery, Alabama, of my success. I received a
reply from him in which he said that though its principal use had been
in syphilis, yet it had found place in the successful treatment of many
other diseases, when an alternative seemed indicated, and Dr. McDade
sent me the history of a case of eczema of forty years standing, which
is considered cured by one and one-half pints of *succus alterans*.

CASE I.

My first case, Mrs. G., married; family and personal history good.
Has had severe attacks of eczema for many years past, otherwise has
enjoyed good health.

Three years ago she came into my hands after having been unsuccess-
fully treated by other physicians, who had given her arsenic and other
remedies, using locally ointments, rubbers, india-rubber bandages, etc.
I then treated her successfully by the alkaline treatment, giving bland
and effervescing alkalies for a long time, and she remained well for three
years, when she had another attack. As I was away from home, a
homoeopathic physician was called who treated her for a while, but with
no success. I was finally again applied to, but the treatment which did
as well before, would not succeed though diligently persisted in. The

case was extremely obstinate, and I have had an extensive experience with eczema. I finally gave *succus alternus* (McDade) beginning in teaspoonful doses, before meals in water, gradually increasing the dose to a tablespoonful. The disease began to improve and was cured. The eruption was on the left leg and foot, and on the wrists and hand.

CASE II.

Mr. S., bachelor, aged fifty, severe chronic eczema, back of ears and in part of hair over forehead. This case had been treated at various times by the most prominent skin specialists of New York, and though relieved was not cured, and the patient having consulted so many good physicians without good result was about discouraged. I treated him same as case one, with the most gratifying results, and he is perfectly cured. This gentleman is highly educated, and has seen much of the world. He is very enthusiastic over the result in his case.

CASE III.

Mr. W., aged fifty-four, married; severe attacks of general eczema covering the body, and coming on with cold weather. I attended him seven years ago for an attack which almost threatened his life, on account of the great depression caused by the extent of skin involved. He has been taking *succus alternus* this winter, and has received more benefit than from any other remedy.

I did not see him at the beginning of the last attack, but he has agreed to begin the medicine as soon as the disease may appear next fall, with the approach of cold weather, and I feel confident that he will find relief.

DIABETES MELLITUS.

In the *New York Medical Journal* for November 22, 1884, four selected typical cases of diabetes mellitus are published, not before reported, by Dr. Austin Flint, Jr., and I now report a case cured by the same means,—strict anti-diabetic diet and *Clemens' solution* of arsenite of Bromine.

Mr. M., aged fifty-two, married, came under my care last October, 1884. He was robust, had always enjoyed good health, but had worked very hard. For several months before coming under my observation he had suffered from excessive urination, abnormal thirst, loss of strength, impairment of appetite, and had lost a large amount of flesh. I examined a specimen of the urine, and found a specific gravity of 1020, with a large quantity of sugar. I at once set him upon a rigid anti-diabetic diet, and prescribed three drops of *Clemens' solution*, arsenite of Bromine, with six drops *Sedated tincture* of Opium, three times

daily. I also had him drink Carlsbad water, made by dissolving the salt, and this was varied by using Natronville water for a drink.

This patient began to gain soon after taking treatment, and has been apparently cured for the past three months. Urine normal in quantity, specific gravity 1020,—no sugar, and the general diabetic symptoms have long since disappeared, and have not returned. He now lives on ordinary diet, but avoids sugar and sweets, and feels that he is entirely cured. I feel that the quotation from Cairns made by Dr. Eliot, and repeated again at the end of his report of cases, is fully justified, and that diabetes has become to-day a disease easily and certainly curable, provided that the treatment (cure) be not begun too late. There seems, however, to be some cases that do not follow the general rule, and respond, to the above generally successful treatment. Cases occurring in the very young and from injury are sometimes more intractable. I have lately had a case occurring in a boy of seven, happening after concussion of the spine, received while turning somersaults, which goes to prove the above conclusion. The boy referred to was turning "head over heels" on a bed, and suddenly fell from the bed to the floor, tumbling about there like a recently decapitated chicken. I found that he had sustained a fracture of the internal condyle of the right humerus. This I treated by an angular splint for twelve days, then a simple sling, he giving passive motion about the end of the first week. This gave an excellent result. Not soon after being hurt this boy began to lose flesh, while thirst and general diabetic symptoms before long appeared. He was dead at the end of three months,—dying emaciated, and in spite of all treatment.

WM. A. LOCKWOOD, M.D.,

County Reporter.

ABSCCESS OF THE LIVER. ASPIRATION. RECOVERY.

BY E. G. NOBLE, M.D., STRATFORD.

Mrs. P., aged seventy-one years. Always been well until eight years ago. First called July 7, 1884. Pulse 100, complexion sallow, emaciation, enlargement in right side over one third of the liver, dull percussion; great tenderness all over, tongue furred, no appetite.

R. Pot. Bicarb. 3*j*.

Ext. Bellad. Fl. f 3*ii*

Tr. Cinchon. Comp. f 3*j*

Syrup Bars Comp. q. s. R. f 3*iv*.

M. R. One teaspoonful three times a day.

Patient improved. Fever and tenderness subsiding. Tumor remains July 10th. Ceased pills.

July 31st. *Swallowed again.* Pusd tumor softened. Diagnosis. Abscess of liver. Patient without appetite, debilitated.

July 31st. Dr. Lander of Bridgeport, called in consultation. He confirmed the diagnosis and recommended aspiration. At this time, the tumor extended from the extremity of the sternum through the whole of the right iliac fossa, nearly to the pubic bone across the median line. The needle was introduced.

About a pint of pus was obtained. The pus was exceedingly offensive in smell, thin in character, and coffee brown in color. Under the microscope the corpuscles were seen to have undergone complete degeneration. Crystals of tyrosin were discovered, which are almost pathognomonic of the liver as its source. Chemically the presence of bile was detected.

July 30th. Improvement in general appearance and appetite. Tumor diminished.

August 2d. Improvement in general condition and appetite, but accumulation of pus at spot aspirated.

August 4th. Abscess filled with pus.

August 5th. Aspirated again, obtaining a pint and a half of pus, same character as before.

Patient improving.

August 12th. Dr. Lander being absent from town, Dr. Warden aspirated, and drew off two thirds of a pint. As had been previously determined, an incision was then made with a probe-pointed bistoury, introduced at the opening, which still remained from the previous aspiration. For this incision the patient inhaled ether.

The cavity was washed out, and a soft catheter inserted, to which a drainage tube was attached. The catheter was passed in about six inches. The daily discharge of pus was about $1\frac{1}{2}$ until August 22d, when it began to diminish, and steady improvement followed.

October 7th. Patient discharged, cured. Her weight has increased from one hundred and ten to one hundred and seventy pounds, her present weight. She is now in perfect health.

MIDDLESEX COUNTY.

DURHAM, April 29, 1885.

DEAR DOCTOR: I have tried the fluid extract of cascara sagrada from several manufacturers and am much pleased with its effect. I have tried it in not less than twenty cases of constipation, and the reports are very unanimous in regard to its effects as a sure, thorough, and easy laxative or cathartic according to the dose. I order from twenty to twenty-five or thirty drops at bed-time, and it operates in about nine hours with no griping. I consider it a great acquisition and shall never practice without it. The coated pills furnished me would not operate in less than twenty-four hours unless cut in two, in which case they operated in about the same time as the fluid extract. I have not tried the other articles sufficiently to express an opinion.

Yours respectfully,

R. W. MATHEWSON.

TOLLAND COUNTY.

FEMORAL ABSCESS CAUSING DEATH BY VENOUS
HEMORRHAGE.

E. P. FLINT, M.D., SOUTH COVENTRY.

The case was one of multiple abscess, following measles, in a child two months old. The family had removed to this vicinity after the infant's recovery from the measles.

Three abscesses formed, one on each hand, and one in Scarpa's triangle on the left thigh.

I was summoned late in the afternoon, and on my arrival, the mother stated that the abscess in the thigh "broke" on the preceding day, and had been oozing blood ever since constantly. The dark color of the blood, showed it to be venous, and the slightest pressure on the abscess increased the flow. Every diaper that had been removed, was freely stained with blood. The little patient presented a strikingly emaciated appearance, was perfectly insensible, and survived but a short time.

Though the child was debilitated from the effects of the eruptive disease, and the formation of the abscesses, the hemorrhage was plainly the immediate cause of death.

There was no opportunity for a post mortem examination.

DIABETES INSIPIDUS SECONDARY TO AN ATTACK OF DIPHTHERIA, AND FOLLOWED BY RHEUMATIC FEVER.

E. P. FLINT, M.D., SOUTH COVENTRY.

E. D., age about fifty, was attacked last November by sporadic diphtheria, which ran a tolerably severe course, but developed no especial peculiarities.

The characteristic symptoms of the disease had subsided and mostly disappeared, leaving the inevitable wasting and debility, when the patient began to complain of excessive thirst, and a corresponding frequency in micturition, and increase in the quantity of urine voided, which quickly rose to the large amount of fifteen pints during twenty-four hours.

Tinct. opii and M. ext. ergot combined, decreased the quantity of urine about one-half in forty-eight hours, when the patient's stomach commenced persistently rejecting the remedy, and the urine had markedly increased by my next visit.

I withdrew all medication except simply directing the water, which

he could not resist imbibing in enormous quantities, to be mildly acidulated with nitric acid dil.

From that time, the polyuria and inordinate thirst steadily and rapidly subsided, and entirely disappeared in about two weeks.

There was no sugar present at any time, but always a slight trace of albumen, which is the aggregate result, of course, have been considerable. This entirely disappeared as the urine decreased to a normal amount.

T. Lander Brunton, in speaking of diabetes insipidus says: "It has also been observed to come on during recovery from fevers, either continued or remittent." Also, "a sudden onset has been observed during recovery from febrile disease."

About one week after my patient's recovery, and ere he, hardly, had begun to recruit from his debilitated condition, I was hastily summoned to find him severely attacked with acute rheumatism.

Although I had almost invariably obtained most satisfactory results from the exhibition of salicylate of soda, in this disease, I shrunk from its possible effects in this case, so weakened by disease and suffering.

Choosing a tempering course, I administered the saline treatment.

For several days the painful disease continued its course, and soon typhoid symptoms were added, dry and brown tongue, tympanitis, and low muttering delirium.

Influenced by articles published in some of the *Medical Journals* on the complication of typhoid fever with inflammatory rheumatism, I decided that I had genuine typhoid to contend with when the typhoid condition appeared. But it was apparent that much of the rheumatic trouble about the joints had disappeared at the same time, and acting upon this clue, and realising that the case was rapidly approaching a fatal termination, I prescribed pronounced doses of salicylate of soda.

The next day every symptom was more feverable, and continuing the same remedy, the "typhoid fever" rapidly disappeared and the rheumatism with it.

A little stiffness about some of the joints during convalescence was removed by the exhibition, for a few days, of iod. potass., and the patient from that time made a rapid and complete recovery.

ABSENCE OF ALBUMINURIA IN BRIGHT'S DISEASE.

BY FRED. WALSH, M.D., ROCKVILLE.

In cases of advanced Bright's disease absence of albumen from the urine is not uncommon, and indeed some cases of verified Bright's disease, where no albumen whatever was observed during life, have occasionally been recorded. Still, indeed, it is rare for

the urine of a patient, long under accurate observation, to show no evidence of renal disease by the ordinary test, until ten and six days, respectively, before death, as in the two cases reported in this paper, and yet for the post-mortem examination to show, as in case I, that the kidneys were so atrophied that not more than one-sixth at most of their substance could be functional.

CASE I.

Male, aged 50, was for eleven weeks confined in the hospital of the Quinsville Penitentiary, Canada, suffering from general dropsy and great dyspnea, and was seen by myself daily in company with Dr. Mitchell for the last six weeks of his illness. Mitral insufficiency with hypertrophy was diagnosed, but was considered insufficient to account for the symptoms. The patient had no history of syphilis, and was passing, on an average, about $2\frac{1}{2}$ pints urine daily.

Signs of kidney affection were carefully looked for, but with negative results—the urine being of normal color, acid reaction, specific gravity 1021, without albumen, but occasionally containing phosphates. Ten days before death the urine diminished very materially in quantity, the average quantity per day being about one pint; color clear brown red, of specific gravity 1028. It contained hyaline casts, albumen, and a few white and red blood corpuscles.

Post-mortem Appearance.—There were complete atrophy of left kidney, and of about one-half of the right with interstitial and parenchymatous inflammation of the remainder of the right kidney; hypertrophy of left ventricle of the heart with fatty degeneration of the muscular part of that organ; and consolidation of one-half lower lobe of right lung. There was no microscopic examination made.

CASE II.

Mrs. M., aged 35, married, four children. The history she gave me when called to see her for the first time, April 18th, was that for a year previously she had been treated for heart disease and dropsy. On examination I found the abdomen distended with ascitic effusion—there was general anasarca, decided anæmia, and impaired vision. Upon auscultation found a murmur occurring with the contraction of the heart and the first sound. For some time was undecided as to whether it was aortic or mitral insufficiency, but finally concluded that it was the former. The urine was of the specific gravity, 1028; no albumen, no casts, but deficient in quantity, as she only passed about $1\frac{1}{2}$ pints daily. I examined her urine nearly every other day for albumen, but found none, until the sixth day previous to her death, May 18th, when I found it in abundance.

In this case no post-mortem was allowed, and hence my diagnosis could not be verified; but the symptoms so nearly approximate the first, that I naturally infer the lesions were very similar in both. Heidenhain says that the separation of the waste and salts of the urine occurs in the glomeruli, and that the specific urinary constituents are secreted by the action of the epithelium lining of the urinary tubules, and he also narrates some experiments to prove this. He says the absence of albumen in healthy urine may be accounted for, although secreted from an albuminous fluid, by the presence of the complete epithelial covering of the glomeruli. I think that case I above strongly supports Heidenhain's theory as to the parts of the kidney which are active in the separation of the urine from the blood. From the fact of but one sixth part of the kidney, secreting nearly the normal amount of urine, to all appearances and analyses identical with healthy urine, we would infer that it was not a process of simple filtration, as some German writers hold, but a secretion by tissues, which, in the way of compensation, can take an increased function.

CENTENNIAL OBSERVATIONS ON THE PAST, PRESENT, AND FUTURE OF THE CONNECTICUT MEDICAL SOCIETY.

By S. G. HERBES, M.D., NEW HAVEN.

[Read before the New Haven County Meeting, April 16, 1885.]

Under the operation of physiological law, the growth and development of organic bodies depend upon the regularity and completeness of the molecular changes which occur in them. Men and their institutions, in subjection to a similar natural law, must undergo repeated material transformations and such constitutional changes as will best fit them to fulfill their legitimate functions; otherwise, healthy existence cannot be maintained. The constitutions of States, the charters of colleges and cities, the organizations of scientific bodies, and all those associations which are the outgrowth of civilization, and mark the progress of mental and material development in every community, must be constantly subject to modifications and changes if they would keep pace with the advancement of human thought, and with the absolute requirements of mankind.

Whenever such changes become impossible of accomplishment decay and death are close at hand.

The necessity for the inauguration of such organic changes as affect the life or usefulness of an institution may have been for many years an admitted fact in the inner consciousness of its thoughtful members, awaiting only the expanding force of a rare or even of a commonplace event to develop a feeble admission of possible danger into a deep and positive conviction of its existence. The interest which always centers around chronological events in their relations to the life and welfare of a public institution, converts most naturally these centennial days into an occasion for critical retrospection of our affairs and prospects.

We have reached to-day, Mr. Presidents and Gentlemen, a period in our history of the greatest possible interest and importance;—an epoch of time from which we shall date all the events in our future,—a point of observation from which we may look backward and carefully note the successes and the mistakes of the first hundred years of our existence; and looking forward from this elevation into the dim unknown we should endeavour, in the light of contemporaneous history, and of our own experiences, to cast the horoscope of the future, bringing to our aid the calm spirit of philosophical inquiry and the cautious boldness with which we are accustomed to consider the gravest professional problems.

But while we broaden and deepen our foundations to meet the demands of a newer civilization, let us correct our mistakes, and strengthen ourselves for the new triumphs and trials that await us in the progress of the second century on which we have just entered.

This centennial anniversary of the New Haven County Medical Society, as it was at first named, is an appropriate occasion for recalling briefly the condition of the profession of Connecticut in the early days of the republic, together with the circumstances and purposes which led directly to its formation, and the events which followed it. We may thus be enabled to trace to their source the striking peculiarities for which our State Society is distinguished, and to appreciate more fully the tenacity with which it adheres to the outworn theories of a dead past.

Those of you who are familiar with the interesting and increasingly valuable paper of Dr. Henry Bronson, on the "Origin of the Connecticut Medical Society," published in our Proceedings for 1873 (and all who were members at that date know it well), are aware that the principal object the founders of this society had in view was, that it might serve as a strategical base of operations—an advanced position—from which they could more advantageously direct the contest about to be inaugurated, the real purpose of which was the formation of a State Medical Society, on a plan that had been already matured.

It may, then, be truthfully said, that the existence of the Connecticut Medical Society began a hundred years ago, when all its parts were fashioned, and its lines were laid upon a borrowed model, the working qualities of which had not then been tested. And although, because of the insatiable demands of the thirty-

two persons who petitioned for an act of incorporation, a charter was repeatedly denied to them, and its organic life was retarded for eight years, the State Society has been an actual living force in the minds and hearts of the profession since 1784. Before proceeding further, perhaps what I have said of the demands of the petitioners for exclusive rights, extraordinary privileges, and dangerous powers, requires a word of explanation.

During the closing years of the Revolutionary War, and immediately after the establishment of peace, a large number of medical men of wide experience and superior ability, of which they seemed fully conscious, returned, after prolonged and arduous services with our armies in the field, to their quiet homes in Connecticut; and it would not be strange if they brought with them the habits of command, the self-appreciation and the arrogance so common among professional men of that early time, greatly interested by the influences of army life. They found already organized in a neighboring commonwealth, by men of similar experiences and mental habits, a State Medical Society; and feeling the need of a similar organization themselves, and in view of the pre-eminence position and influence conceded them and always to the profession of that State, it was most natural that the charter of the Massachusetts Medical Society, granted in 1781, should have been closely copied as a model of wisdom by the early profession of Connecticut.

But when, as petitioners, they knocked at the doors of our General Assembly, in 1784, asking for the incorporation of thirty-two physicians — four from each county — as a body corporate, to be known as Fellows of the Connecticut Medical Society, chosen for life, or during good behavior, and limited in number to sixty persons, the petition was promptly denied on high constitutional grounds, and as contrary to public policy. The next year the petitioners amended their 'bill of firm' and asked for a charter by the terms of which the limit in number of Fellows was extended to seventy; and in order to quiet opposition that had arisen to the charter in some portions of New Haven County, "the committee passed a vote making an addition of four more members from this county agreeable to a recommendation forwarded to the several counties." Says Brewster, "In 1787 a few cities had been recently incorporated, but what may be called a private charter, did not, I believe, exist in the State. Very naturally the legislature was re-

hazard to change its policy. More than this, there were provisions in the rejected bill calculated to excite the jealousy of a suspicious people." The question during these years took precedence in popular discussions of public affairs. It was the general verdict of the people that to grant a charter conferring upon a small number of citizens such exclusive privileges as were asked for, and constituting what was properly termed a close corporation for the administration of affairs of the greatest importance to the entire community, was regarded as a precedent too dangerous to be established — and to the lasting honor of the General Assembly, the prayer of the petitioners was again refused. "Approvingly, or adversely, the people of the State watched silently their proceedings. Yale College partook of the excitement: on the 15th of July, 1788, the Seniors discussed the question, "Whether it be safe to grant the proposed charter of the Connecticut Medical Society," and on the 6th of January following, the question, "Whether the institution of medical societies be useful." We may smile now at some of these items of our medical history, but we must not forget that, while in a few instances there was professional opposition on the ground of too limited a distribution of "life passages" to satisfy the ambitious, the opposition of the people and of their representatives was deeply rooted in their natural democratic dislike of granting exclusive privileges to privileged classes. In 1791, the New Haven County Medical Society was duly incorporated. In 1792 the Connecticut Medical Society was incorporated with substantially the same chartered rights as it has at present, namely, — the sovereignty of the Society is exclusively vested in "the President and Fellows."

"By a change in our charter of 1819, our organization was materially improved in some important particulars, and especially in establishing the standing 'Committee on Matters of Professional Interest,' and by some other changes."

I shall offer no apology for having drawn so largely upon Dr. Bronson's paper for these interesting historical data, in view of the great importance of an adequate understanding of the principles involved in any discussion of the present needs of our State Society, and particularly in view of the fact that the historical paper referred to is not accessible to a large number of members added within the last dozen years.

In order that we may form an appreciative judgment of the

influences of the times upon the condition and progress of professional opinion in our own and the neighboring State, and as throwing a strong light on our own anomalous and untenable position, let me again refer to the peculiar circumstances in the midst of which the Massachusetts Medical Society was incorporated. Like every other interest in the colonies during the revolutionary period, the medical profession was in a chaotic state, and in the absence of medical colleges, there were in all the country no practicable agencies by which it could be redeemed and elevated, except by those originating within itself. It has been stated that among the three thousand medical practitioners in the country at that time, it was estimated that only four hundred held the degree of M.D., and nearly all of these were obtained at foreign universities. The society was chartered on the first of November, 1781, only a few days after the battle of Yorktown, and the surrender of Cornwallis, on the 19th of October. Almost any petition for the incorporation of a medical society, praying as this one did for exclusive powers of control in every thing pertaining to the profession of medicine, presented to any legislature, overflowing as this one doubtless was, with wild excitement and patriotic rejoicings over a glorious victory of such critical importance to the country, would be even now, probably, readily granted. The society was intended and was authorized to act, in the absence of any medical college in that State, or in New England as an examining and licensing body for all persons offering to practice medicine within its borders. It consisted of thirty-one Fellows, with a maximum limit of seventy, to be increased beyond the minimum limit by election.

To this body was committed the entire control of medical education and medical practice. It published a formidable list of over eighty volumes, which candidates for license must show by evidence that they had read — with a catalogue of a hundred and fifty more, which students were earnestly advised to read. It was at the same time a Medical Society, a Medical College, and an Academy of Medicine.

It was upon this model that our original charter was framed; indeed it was a copy, *verbatim et literatim*, of this remarkable enactment, and we can see in it the germs of the idea of government by *elekted Fellows*, and the power to license men to practice medicine, which still linger among us, in spite of the eliminating

forces of evolution. The aims of the profession in both these States, were, however, highly to be commended—their purposes were identical—they each desired to preserve the purity of the profession by excluding from it all persons and practices likely to bring upon it dishonor. The way before them was full of difficulties of unknown magnitude, but their zeal in the work of laying broad and deep foundations for the professional structures they were about to build was unbounded. Their knowledge of human nature seems to have been small, but in their knowledge of scientific medicine, as then understood, they ranked with the foremost. The exigencies of the occasion were great and imperative, but they were responded to in the fullness of their wisdom and to the extent of their powers. Yet the dogmas of an old civilization still held their minds in bondage; for although just emerging from a long and bloody war, waged to secure their own personal and political liberty, they were unable to understand that perfect freedom and equality of rights are just as essential in the cultivation of the medical sciences, as they are to the growth and development of a political state.

In tracing the remarkable parallels so noticeable in the histories of our own society, and that of Massachusetts, I am indebted to the kindness of several friends and correspondents in that State, for the loan of valuable documents and full replies to requests for information; thus enabling me to present an intelligible view of the two societies in comparison—and particularly of the workings of their system, and the reasons which, after a few years' trial led to its abandonment. From the able and exceedingly instructive centennial discourse of J. Collins Warren, M.D., of Boston, before the Massachusetts Society in 1881, I am able to quote facts and traditions which explain the causes which led to this great change in its organization. Says Dr. Warren, "According to tradition the workings of this close corporation were not entirely satisfactory to the mass of the profession in the State. A considerable number of prominent medical men having come into the State, and increasing every year, strenuous opposition was made against the government of the many by the few; there was unwillingness to acknowledge the supremacy of the Society, without enjoying professional equality with the Fellows—such distinctions not being in accordance with the spirit of the institutions of the young republic. Accordingly, in 1803, the number of pro-

medical men in the State having greatly increased, and extensive correspondence having been instituted among its members, in order to devise the best means of increasing its usefulness, a radical change was made in the constitution of the society; and thereafter any associate of three years' practice, was eligible for an election on a basis of entire equality with all other members. He became a *Fellow of the Society*.¹

During the next generation the facilities for instruction in medical colleges, particularly in New England, had been largely increased, and the profession of Massachusetts received its full share of the more highly educated graduates. Of course, agitation against this last remnant of exclusiveness was not allowed to cease or diminish—but was carried on with increased energy, until finally, after undergoing a great number of transformations, that poorer Society through the indefatigable perseverance of a few wise and brave men whom I might name, fought itself clear of all impediments, and in 1859, its charter was so amended that every barrier to the full enjoyment of the rights of freedom and equality by its members was removed, and from that day to the present, any man of good character, being a graduate of a duly authorized medical college, and practicing no exclusive system of medicine, has been an applicant eligible for election as a Fellow of the Society, on a basis of equality. The society then became for the first time in its history, and still remains, *open*—and *free as the forest*, while our own State Society remains the sole representative in New England, of a pernicious system based upon the trade and erroneous ideas of a century ago.

The striking fact should not be forgotten that our own Society is the only one in New England that is governed by a Board of Fellows; and that the Society of Massachusetts is the only other one that ever was so organized in these States.

In what has been said respecting the working principles on which that model society was organized, and the almost universal dissatisfaction that was felt with the results of their system, we may recognize almost a *fac-simile* of our own organization, and of what is now actually taking place within it, but with some very important differences; the most remarkable of which are seen in the modes of electing the governing bodies. While our governing body is elected actually, its members are actually chosen by comparatively a mere handful of members of the county societies, so

few being in the habit of attending those meetings. They are commonly chosen, too, with little regard to their fitness for the very important duties imposed upon them; and being as a body necessarily without permanence it can have little knowledge of our history—still less familiarity with the needs of the profession—and I must add, that in many cases, they manifest so much indifference to their duties, that intelligent legislation is impossible; and I have sometimes heard the question asked, “Why do they attend the convention at all?”

In the early years, for various reasons, the attendance was very meagre, and could hardly be otherwise; and so small was it in 1738, that the quorum, which was twenty, had to be reduced to twelve—the society then numbering over 200 members. At the present day, when we easily travel in a few hours from one extreme of the State to the other, the attendance is no better. It is not uncommon even now, in our populous and near-by counties represented (as some are pleased to style the functions of the Fellows) by only a single one until late in the afternoon; and recently from one large county not a single Fellow was present. I can mention instances in which the convention consisted of twenty Fellows, in others of fifteen, fourteen, and in one case there was not a quorum,—only eleven being present, yet the business of legislation went on. In these instances, who of the society was being represented? It is a common fact which I have often heard commented on, that even when the convention may be considered as full, the business of the governing body is very often transacted by four, five, or six persons, while a larger number of members than all the Fellows there present, stand outside the rail, curious spectators of the so-called legislation going on within it.

Not infrequently, and recently, the society has been placed by this sort of legislation in positions of great embarrassment before the public, from the mortifying consequences of which there was no escape. At the same period of comparison, down to 1863 and later, in the Massachusetts Society, says a correspondent, “The governing body of Fellows was always carefully selected by themselves from among those best known in the profession as best qualified for the high trust committed to them; they were men of at least ten years’ practice, whose fitness for the office was generally conceded.” Another correspondent says, “Notwithstanding the high professional position of the Fellows, there was general dissatisfaction with the

exclusiveness of the system. There was a loss of interest in the district society meetings, and diminishing attendance at the annual meetings." Says another, "The matter of a close corporation was compelled to give way before the general march of ideas, which has made us in theory all democrats."

These quotations are good illustrations of the fact that the human mind everywhere, under similar conditions, works in parallel lines, and arrives at coincident conclusions. The same state of dissatisfaction with our system, and the same process of upheaval exist among us with far greater cause. No one will deny that in the beginning some system of representation by Fellows or otherwise, was necessary, for without it no meetings could then have been held. The profession was poor, the facilities for travel were meagre and fatiguing, and very few, only those living near the places of meeting, could afford to spend a week and more, making tedious journeys on horseback, leaving their patients exposed to the arts of unscrupulous competitors, and spending their money,—for what? An examination of the reprint of our transactions for the first thirty years will show how small was the reward, and how poor the inducements to any except to the very few wise, courageous and far-seeing minds whose prophetic vision enabled them to forecast the future, and patiently labor, while they waited for results they were never to witness. "Men die, but institutions live," is a truism often quoted without remembering that institutions, like men, may *still* live, and yet be not alive; they may be regularly enumerated as among the factors of a community, and yet be intellectually dead beyond recovery.

There are so many existing causes for the present lack of interest in the affairs of the society, that the time would not suffice to discuss them all, nor is it necessary before this audience, every one of whom is perfectly familiar with the situation. I should not feel willing to allude to them were it not for the fact that, in the course of an extended correspondence with prominent members in various portions of the State, I find a remarkable agreement of opinions among them as to the causes for the steadily diminishing interest in the annual meetings, as well as in strictly professional work. Almost without an exception, pointed allusion is made to the increase of medical politics, and to the ease with which combinations are made not only for personal ends, but for the continued control of the organization by conspiring agencies, such as are

best known outside of scientific circles, and to their unfriendly influence upon what should be the highest aim of the Society. From more than one quarter I am informed that respectable practitioners are, as a consequence, deterred from seeking admission to the Society—and what is of far more serious import, I have been distinctly told, of prominent and valuable members whom we cannot afford to lose, who are considering the question of withdrawal. I have personal knowledge of good men outside who refuse to join us, of one who has withdrawn—and of a large number who refuse for these reasons to attend the meetings at all.

It is not a pleasant duty to direct the attention of the society to alleged evils, which, if they really do exist, cannot fail to result in great disaster. If it is true that, in every county there is, or has been at times, what has been termed ring-influence, political combinations, "boomism," cliques (all these being equivalent terms used to define the agencies and forces utilized to develop results not contemplated by the law, and which are entirely foreign to the legitimate work of a medical society), is it not important that the fact should be recognized, and the evils duly considered? If it is true, as is openly declared by many, that these agencies control in many cases the election of Fellows, and have often controlled the election of officers—if it is true that under our system such manipulation is not only possible but is of frequent occurrence, and with a widening co-operation within narrow limits, directs the policy of our society to-day, what must be the prognosis of its future?

This is an evil that has always been recognized as inseparable from our system, under which the mass is governed by a mere handful of men. It may be, perhaps, not improper to state in evidence of the correctness of this view, if any were needed, that in all the correspondence I have had with our own members, this is the objection most constantly made to the continuance of our present system.

Every member who has regularly attended our meetings for a series of years, and has studied the society's history, knows that what I have said is within the bounds of truth, and might be considerably enlarged. What other reason than a most skillfully managed and widely extended ring-influence can be offered in explanation of the significant historical fact mentioned by Brewster, that from the year 1891 until the year 1896, a period of

thirty-five years, New Haven County was not asked to furnish the society with a president? Whether this policy was or was not urged on the dog-in-the-manger principle, I am not prepared to affirm; but of the fact we cannot doubt, nor that it was the work of an organized ring. And yet, there are persons who declare their disbelief in the existence of ring-influence, anywhere, now or formerly. It would not be difficult to indicate the period of its birth, and the progress of its growth. I see before me gentlemen who have had personal experience of its silent but potential influence for evil. I have already said, it has existed from the very *foundation of the society* — it exists now — and from the nature of our organization, it will continue to exist, as long as that endures. I only mention these very disagreeable facts because no individual is chargeable with responsibility for them; and because they account in large measure for the growing indifference of members to matters of the most vital importance to the welfare of the society, as shown by their continued and declared absence from all its meetings, and because it is generally believed that a considerable number of physicians in the State, decline for some or all of these reasons, to become members of it; and, moreover, because there comes from various sections of the State, the suggestion of the need of a new society, organized on better principles, and administered in a different spirit from that which now controls its councils. I am opposed to such a revolutionary step as this, believing as I do that it is possible, and far better, to remodel the society on the basis of the proposed "New Charter," and such changes in the by-laws as would thus be rendered expedient and necessary.

We are now in the same condition as were our neighbors in 1803, before they achieved their freedom from the dominion of an oligarchy. Indeed our situation is far worse than theirs, for while they endured the yoke in its full force for only twenty-two years, we have for a full century labored under much greater embarrassments, with a daily lessening power of securing our freedom from the ever-growing burden.

Before our neighbors were set fully free by the final act of emancipation in 1803, not only were the annual meetings of the society very generally ignored, but the district society meetings attracted little attention, and were of little use. But when the society became open and free, every member rejoicing in the

possession of Fellowship, on a basis of entire equality of rights and privileges with every other member, the status and relations of the whole profession were totally changed.

Indifference and distrust, silence and isolation, gave way to universal joy and gladness; and the anniversary meeting of this great and noble society, became the jubilee day of the profession in Massachusetts, and is now the Mecca up to which more than half of its 1,500 members travel every year, to listen to learned discourses, renew old friendships, exchange congratulations, and dine in harmony together.

A friend writes to me, "There has never been in the recollections of the oldest members, such a degree of professional harmony among us as of late years." Such are some of the natural and logical results in professional development, under the benign and stimulating influences of freedom and equality. Is it too late for us to profit by such an illustrious example?

Is there any obstacle in the way of a higher and more profitable cultivation of medical science among us, excepting the wretched remnant that remains of our old charter of 1784, the seed of which, if it ever existed, the society has long ago outgrown? Are gentlemen willing to acknowledge themselves satisfied with the little that filled the professional demands of the framers of that charter, or of the one of 1792? Are we ready to confess that we have no higher ambition than to keep ourselves within the deeply-worn ruts of antiquity?

Will any gentleman admit that an organization which fulfilled all the demands of the profession a century ago, is adequate to meet our necessities in the closing days of the nineteenth century? Do we stand in the foot-prints of our ancestors of four generations back? Will any member offer a reason why this society should not be made as free and open as those of other New England States?

I am aware that it is easy to object to anything. It is exceedingly easy to make objections in private which no one would be able to defend in public. I am told that the idea has been indulously circulated (and I quote from the letter of an ex-president), "That, should the society be made free, and every member a Fellow, it would be easy for the members in Hartford or New Haven counties, if they wished, to pass any particular measure over the heads of the country members, who would not be likely

to turn out; and so Hartford and New Haven might combine and control the choice of the society."

Is that an argument, and can it be defended?

When has it ever been known that Hartford and New Haven have combined to control the society? Take the history of all these hundred years—did any such thing occur previous to 1816, when for two generations of men, New Haven had been denied the honor of a president? I know that since then nothing of the kind has occurred. If such political trickery were ever to be attempted, it could only succeed under our present system. Those who fear that in a state of perfect freedom, every man being a Fellow, and able to represent himself, political combinations against the rights of any would be more easily formed than now, place a much lower estimate than I do, upon the professional honor of the country physicians; and I am sure that such an objection cannot be seriously made or sustained, by anybody.

I firmly believe, that on a basis of equality, it would be impossible for members to neglect the annual meetings as they have done hitherto. Every man would feel, as perhaps never before, that he had a vital interest at stake—and a strong personal attraction to the meetings, which he would have no desire to resist. He could not resist it! From another ex-president who has no superior among us as a man of sound, calm judgment, a man of wide professional and general culture, I have received this opinion: he says—"The facility of traveling by railroad is now so great, that it is much better to amend the charter so that each member shall stand as the equal of any other member."

"Let us strike for an annual mass meeting of the society, throwing the responsibility of attending it, to wit, on the profession of the State—this will appeal powerfully to the higher professional instincts and pride of every man."

Another ex-president writes me: "I have never been able to see any good reason why the administration of the society's affairs should be entrusted to some forty of its members, many of whom are men of small experience in such matters, and some are too young in practice to be of any service to the society in this relation." He adds: "I believe that every member of the Connecticut Medical Society should have the same powers and privileges as to speaking and voting in its meetings, that any other member has, and I have no doubt, if the better part of the

members will unite in giving their attention to this subject, the necessary changes can be made."

Another ex-president writes thus: "I believe," he says, "that in all our medical societies, whether town, county, State or national, physicians should meet upon an equal footing, with equal privileges; otherwise, our society meetings are but clubs, with invited guests, who have only the wonderful privilege of sitting mute, and watching the actors as they play. There may be some good reasons for this 'House of Lords'—the Fellows, that I do not comprehend, but from my present standpoint of information, I heartily concur with the views you have expressed."

From two other ex-presidents I have received similar opinions, in each instance unqualified, and accompanied by statements of facts of their own knowledge, on which their opinions were based. They each protest in strong terms against a longer toleration of a system of administration so prolific as ours of every imaginable professional evil, and without a redeeming feature. It must, I am sure, be apparent to every reflecting mind, that these opinions are correct; and coming as they do from representative men who have carefully considered the subject, they are entitled to great weight. From what I have heard there can be little doubt that a majority at least of our ex-presidents would concur in these opinions if they were inquired of.

It should not be forgotten that by natural and associated right, the sovereignty of the society inheres wholly and equally in its members. But in the obsolete fashion of that early time, when the lines were distinctly drawn between the few who gave direction to public opinion, and the mass who followed them, the sovereignty of the individual was unciously surrendered to a small body of elected Fellows; and ever since, "the President and Fellows" have continued to exercise those sovereign powers which the society should never have relinquished, but may at any time reclaim.

The adoption of the proposed new charter now under consideration would be an easy method of reclaiming these long abandoned powers, and of rehabilitating the members in their sovereign rights; thus leaving the society free to reorganize and simplify its antiquated machinery, in accordance with the more enlightened views of the present day as to what the needs of the profession require. To those who dread and oppose any change because it is a change; and prefer as they say, to "let well enough alone," and

deprecate the disturbance of venerated dust, it is, I fear, useless to offer a word of argument. But those who advocate as an adequate remedy for these great evils, the extension of representation by increasing the number of Fellows "per vote"; and those who would make Fellows of all ex-presidents, thus creating a "life pecuniage," cannot fail to see that by either of these methods the evils would be increased and rendered more difficult of removal. In the proposed new charter, however, they can see a solution of all our troubles.

Within such a body where all its members are engaged, each for himself, in the study of medical science, in the practice of which he is of necessity his own exponent—his own representative before the public—*is there any sensible reason why every member should not represent himself in the administration of the society's affairs?* We shall presently see that under this new charter, and the by-laws that will naturally be framed under it, all the individual rights of members, as well as those of the county meetings, will be guarded at every point more perfectly than they have ever yet been. While at the same time, as in all medical societies organized on a basis of equality, of which I have any knowledge, such as the other State societies in New England, and the newly organized New York State Medical Association, containing more than half the members of the State society from which it seceded,* there will be no room for outside issues of any description; no possibility of combinations of the stronger against the weaker—or of one section or individual against another. If such objectionable features—such deformities—have ever defaced our countenance, or weakened our influence for good, they could exist no longer because every inducement to their formation will have been removed.

Much more might be said in advocacy of a reorganization of the society on the basis of the proposed new charter. But not to weary you, let us suppose that the society has decided by a majority vote (to be cast in any manner which will secure a ballot from every member) that it will celebrate the first centennial

* And yet, indeed, it would be a mistake to suppose that the cause of this secession was the attitude of the State Society of New York on the whole question. It was more properly and the real cause—the cause being the control of the society for years past by a group of apostates; and the control of the district societies by those, which decided who should or should not be elected members of the State society.

anniversary of its foundation by inaugurating this "new departure" in its methods.

The society has been summoned, we will suppose, to assemble in mass meeting. The President announces the result of the balloting. The convention is ready now to consider any business brought before it. I would propose,—

First. The election upon nomination and by ballot, of a President, a Vice President, a Recording Secretary, a Corresponding Secretary, and a Treasurer, each to serve for one year, or until a successor is elected.

Second. Let the members then present from each county, elect from among those members (present or absent) two, making in all twelve, to serve as an Executive Council, to whom shall be added, the President, *ex officio*, or some Fellow named by him, as a "Member at large." One-half of the elected members of the council to be elected for one year, and the other half for two years (to be decided by lot) or by nomination at this first meeting. In every year after the first year, eight members of council will go out of office, and the vacancies be filled by new elections, so that each member will serve for two years—while the "Member at large" will serve only one year, and go out of office with the President who appointed him. We should thus have an executive body of seventeen, representing all the county interests, composed of the best qualified members who could be selected, subject, or not, to re-election, after an interval of one term. If the President be added *ex officio* to the council, he will be its presiding officer; and the corresponding secretary shall act as its secretary, and keep and preserve records of all its business. The council to hold two meetings in each year, the last of which to be one month previous to the annual meeting of the society. The duties of the executive council to be the nomination of all officers, and the members of the standing committees, and delegates of the society—(all the other committees to be appointed by the president) and in general to prepare the order of business of the annual meetings—to exercise a watchful care for the general welfare and to perform any other executive duties referred to it by vote of the society, and duly to make report thereof to the society.

Immediately after the meeting of council just previous to the annual meeting of the society, the council would transmit to each member of the society, the nominations it will present at that

meeting for president, vice-president, recording secretary, corresponding secretary, and treasurer, and members of the standing committees, together with a programme of the exercises of the meeting, literary and otherwise, names of existing officials, essays, etc., in the usual form. The executive council should be paid an annual sum equal at least to their necessary expenses. I think it will at once be seen that the duties of the Council will be of controlling importance, and of the greatest benefit to the society in various ways. It will be of necessity a deliberative body, as well as an executive force; and in time will come to be regarded also as a co-operative consultant in affairs "ad hocum." If, as it is hoped, the members of council should be selected because of their peculiar fitness for such duties, by reason of general professional intelligence, and especial interest in all that concerns the welfare of the society, they will naturally come into very intimate relations with the most active minds in the county meetings of the society; and will become almost of necessity, radiating centers of professional enthusiasm and life.

The members of council would be enabled, knowing as they undoubtedly would, every case of special interest in their several counties, to bring to the aid of the county reporters a powerful influence in securing for the "Committee on matters of professional interest" written reports of all the instructive cases occurring in the State: and if, perchance, there should be to other tangible, permanent good ever realized as the outcome, the first fruits, so to speak of this endeavor to remodel our organization, than that of encouraging and establishing for every young man the habit of making written reports of his cases, the attainment of so great a good is worthy of our best considered efforts.

This is the best known means of forming habits of systematic study and correct thinking; and in conjunction with the right of universal suffrage, cannot fail to secure for us in the end and full completeness of our organization, all the advantages which professional association is capable of affording.

It is important for us to remember, that while the annual meetings of the society are indispensable, and when properly conducted have a powerful influence for good peculiar to themselves, it is in the county meetings of the society that each individual must cultivate his own powers, and perform for himself the labor which is

to carry forward to completion his own personal professional growth.

Hence it is, if anywhere, that we are able to approach that development of individuality which is such an essential element of professional success, and by means of which so many are distinguished above their fellows.

The most sanguine advocate of the right of every member to the enjoyment of the privileges of *selfship* on a basis of perfect equality, could not be so illogical and unreasonable as to "suppose that the professional qualities of any man can be changed by legislative enactment;" or that a society which for a hundred years has suffered regression and paralysis through absorption of its inherent powers of sovereignty, can at once take position by the side of sister societies, which, for almost the same length of time, have been developing under the more favorable influences of freedom and equality.

Let us remember, gentlemen, in our efforts to determine what changes in our organic law are required by the exigencies of the hour, that we are working now, not for to-day only, but for the next century. Petty variations of methods, that carry not with them the recognition of great principles brought to light through the demands of a progressive civilization, change nothing. Frequent appeals to the legislature should not be mistaken as evidences of progress; yet every one must concede that in each change thus far, particularly in the most recent one, that of 1810, good progress has been made. I will say, however, of this charter, as its committee said of the work of all their predecessors, "that so far as it goes it is very well; but it does not go far enough." Yet they ventured as far as it seemed probable at that time, the society was prepared to follow. Surely it cannot be necessary to remind any reader of this paper that its sole aim is to aid in placing the society upon a higher plane than it has ever yet occupied; and to invite special attention to the primary step of several it must make before it can assume the position which its distinguished parentage, its century of existence, and its own self-respect demand that it should take. It must be apparent to every intelligent reader that the tendency of this movement for a reorganization of the society under a new charter is not toward centralization, but toward the very opposite condition. Its object is to increase greatly the general interest in the society's prosperity by formally elevat-

ing each of its members to the dignity of fellowship, and thus reserving to every one the high constitutional powers belonging to him by right, but hitherto exercised by a small body, without permanence or special qualifications for the trust. There are already possible indications that the society may soon be called upon to vote, through its fellows, for a change in the by-law concerning its places of meeting. In my judgment, a vote to restrict the place of meeting to any single locality would be equivalent to a *long stride toward centralization, and fatal to the very life of the society*. In so small and compact a State as Connecticut, with its superior railroad facilities, there can be urged no valid reason for such a vote. On the contrary, it would be easy to demonstrate that it is of the utmost importance for the society not to restrict its liberty to hold its meetings wherever it may choose, in any of the cities of the State.

The most striking and commanding features of the proposed new charter are its simplicity, and the freedom it confers upon every member of the society to do, through its by-laws, in all time to come, whatever its highest interests may demand. Under the simple provisions of this charter, or of one framed in express recognition of the great fact that the sovereignty of the individual man is inalienable, and that the power to deprive him of it exists nowhere, not even in himself, under such an accepted declaration of rights as our working charter there can be no room for discord, none for political combinations, none for personal ambition, except for superior excellence in professional work.

There will be room only for perfect unity of purpose, mutual respect, harmony, and brotherly love.

ESSAY.

THE INTERNAL USE OF GERMICIDES.

By W. W. KENNEDY, M.D., HARTFORD.

Ever since the introduction of the germ theory, the question of the curability of the infectious diseases by the internal administration of germicides has attracted constant attention. Whether one accepts the germ theory or not he is still interested in this question, as it is certain that the poison of an infectious disease, whether a germ or something else, can be destroyed outside of the body by certain substances known as disinfectants or germicides. With this fact in view nothing is more natural than to question whether we cannot give some of these substances internally in sufficient amount to destroy the poison when in the body, and in this way modify or cut short the course of the disease. Theoretically the matter is simple. All that is necessary is to find some substance that will be a sure poison to the bacteria of disease in an amount that can be taken up by the circulation and come in contact with all the tissues of the body without injurious effects.

This subject is one that has attracted the attention of such original investigators as Bardon Sanderson, Klein and Koch. Bardon Sanderson makes the statement that "In looking to chemical knowledge for suggestions in our contest with the specific agents of disease we are unquestionably applying to the right source for aid," (*Hygienic*, Jan. '83, p. 39,) and even so conservative a man as Eliot, Sr., in an address delivered at the first meeting of the New York State Medical Association, after referring to the subject and speaking of the discoveries that may be expected, says: "Never before could the medicine of the future have appeared more bright and encouraging than at the present outlook." (*Med. News*, Nov. 29, 1884.) It would be easy but it is not nec-

easy for me to make numerous quotations from our medical journals to show the interest which the proposition of such a simple plan of treatment excites.

I do not propose to consider the question of the curability of the infectious diseases by any drug, but whether we have any reason to believe that we can cure these by directly destroying in the body the bacteria causing these diseases. It is important to remember that although clinical experience is the only true criterion of the therapeutic value of a drug, the mere fact that a drug is of benefit in an infectious disease is by itself no proof of its germicidal action. If any one drug was a specific for all the infectious diseases, then we might reasonably infer that it acted directly upon the germs themselves. It is evident then that we must look to experimental data for our information in discussing this question.

Comparatively few of the pathogenic bacteria have been discovered and isolated so that the effect of drugs upon them can be studied, but upon vaccine virus, the bacillus anthracis, bacillus tuberculosis, the micrococcus of pya and septicaemia, and the bacteria of putrefaction, many experiments have been made to determine the least amount of the germicide that will destroy them or prevent their development. As their growth is prevented by a considerably smaller amount than is required to kill them, this smaller amount is the least that any one could expect to influence their growth in the body.

As to the amount of the material in the body which it would be necessary to bring under the influence of the germicide, it is generally assumed by those who advocate this method of treatment, that if the amount of the germicide in the blood is raised to the required proportion, that is all that is necessary. As Dalton gives eighteen pounds as the amount of blood in a healthy man weighing 145 pounds, we will in our calculations take that as the amount of material calling for disinfection. For information as to the harmlessness of germicides taken in the proposed amount, we must consult our clinical knowledge of the toxic action of these drugs.

A superficial examination only is necessary to show that under no circumstances can certain classes of disinfectants be used as internal germicides. Experiments have shown that the acids are among the best disinfectants and that comparatively a small proportion prevents the development of the pathogenic bacteria, but as the blood is alkaline and must remain so, we cannot use the acids

as internal germicides. As to the gaseous disinfectants, chlorine and sulphurous acid, it is plain that since it is necessary to saturate the atmosphere with them to kill bacteria, they could in no way be used as internal germicides. Neither are the chlorine compounds available as they depend for their value upon the free chlorine which they give off.

When it was first learned that carbolic acid was a potent poison to low forms of vegetative life, and that in this way it would prevent putrefaction and fermentation, it came into use as an antiseptic in surgery. Then there being so many analogies between fermentation and the processes of disease, it was thought that the same drug which when used externally prevented septicaemia might be used internally to cure that or similar diseases, and from that time to the present, carbolic acid has been proposed as a remedy for about all the infectious diseases. The most recent is the method of Dr. Decbat, who proposes to cure all infectious diseases by its hypodermic use. It seems to be an invariable rule that the first investigators of a new drug, even when it is a drug of genuine value, get more favorable results from their experiments, whether clinical or laboratory, than later and less enthusiastic experimenters. It was so with carbolic acid. Some of the earlier estimates of the amount of this drug necessary to destroy bacteria, are seen in the light of more recent experiments to have been far from the truth. For example, Magnin in his work on "Bacteria," first published in 1878, says: "The experiments of Metchnikoff have demonstrated that $\frac{1}{2}$ of 1 g of carbolic acid is sufficient to prevent the development of all living beings." Later experiments have shown that much more is necessary. Braidwood and Vacher (*British Med. Assoc.*, 1876, vol. 2, p. 26) experimenting on vaccine virus, found that a 2 g solution of carbolic acid did not certainly destroy the virus if it was used soon after the application of the germicide. If the same strength of the acid was kept in contact with the virus for seventeen days it was surely destroyed. Dr. Baxter (Report of Med. Officer of Privy Council, 1875, p. 231), found that 1 g was sufficient to destroy the virus of infective inflammation. Sternberg (*Am. Jour. Med. Sciences*, Apr. 1882, p. 37) found that the micrococcus of pus was destroyed by a solution of the strength of 1-425 and the micrococci of septicaemia by a strength of 1-200. *Bacterium termo* required 1-100. He made other experiments to determine how little would prevent the development of bacteria and found that 1-300 was the weakest effective

solution, the result being the same with all the forms of bacteria. It is evident then that a strength of 1-500 is the least that experimental data give us any reason to expect benefit from in its internal use, and if we calculate what is required at that proportion to render one eighteen pounds of blood incapable of supporting the growth of bacteria, we find that a little more than half an ounce would be necessary. As this has caused death in two cases and the external use of a solution containing half an ounce, in one case (H. C. Wood, *Therapeutics*, p. 89), it needs no argument to show the impossibility of giving it in an amount sufficient to keep up a proportion of 1-500 in the blood, and this being the smallest amount that any one could expect to influence in the least the development of the bacteria of any disease, the futility of giving drop doses of carbolic acid to control septicæmia, yellow fever, etc., is self-evident. The vapor of carbolic acid and other germicides have been used by inhalation in phthisis, and, as reported, with good results. If we cannot introduce sufficient of the acid into the body to act as a disinfectant, it is plain that the vapor could have no germicidal action on the bacillus tuberculosis in the tissues of the lungs. It is probable that the benefit obtained was due to the local effect of the carbolic acid on the bronchial mucous membrane in lessening the bronchitis.

The use of iodine, undoubtedly an efficient disinfectant, has been proposed as an internal germicide, especially in typhoid fever, (*British Med. Jour.*, April 9, 1883). The original treatment proposed by Roche called for the administration of two to four minims of carbolic acid, and two minims of tincture of iodine hourly, till some effect is produced on the pulse or temperature, and then every two hours until the temperature is normal. This was to be continued for two or three weeks, and as might be expected toxic symptoms generally occurred. The same treatment was recommended for phthisis, diarrhoea, dysentery, and diphtheria. It was claimed that the best of results were obtained, due, it was asserted, to the germicidal action of the iodine. In regard to the amount of iodine necessary to act as a germicide, Sternberg found that 1-500 was sufficient to kill bacteria, and that a proportion of 1-4000 was sufficient to prevent their development. The difference here is so much greater than in the case of other disinfectants that it would look as if the latter figures were too small, but if we take the proportion as 1-4000, we find that it would take thirty-one grains of

free iodine to sterilize our eighteen pounds of blood. H. C. Wood gives 32 m. of the Tr. Iodini Co., as the maximum dose containing $\frac{1}{2}$ of a grain of iodine. Even if this dose could be taken every two hours, it would take four days to introduce thirty-one grains into the body, and as iodine is excreted with great rapidity, there does not seem to be the slightest reason to suppose that a sufficient amount could be given to keep thirty-one grains in the blood continuously. Certainly two minims of tr. iodine given every two hours would not do it, and even this dose produced toxic symptoms. Another obstacle in the way of its use as a germicide is the fact, that it so easily unites with bases that it probably does not exist in the blood in a free state at all. Use of its salts, iodide of potassium, probably because of its power in one germ disease, syphilis, has been supposed to be a germicide, and its use in pneumonia is recommended by Schwartz on this ground, (*Abst. An. Jour. Med. Sciences*, Oct., 1884). He proposes to kill the pneumonic germ by the administration of six grains every ten hours. He states that given at the beginning of the disease the results were immediate and perfect. The only experiments with iodide of potassium that I have seen recorded are those of Sternberg, who found that an 8 per cent. solution of this salt did not prevent the development of the micrococcus of gonorrheal pus, the gonococcus. So far as this experiment goes, then, it shows that the iodide has no germicidal action at all, certainly not in any amount that could be taken internally.

The sulphites and hyposulphites at one time had some reputation in the treatment of certain infectious diseases, and it was claimed that the good results were due to their direct action on the poisons of disease. The reason of their failure to maintain their reputation as germicides is shown by the results of experiments. Sternberg found that an 8g solution of the hyposulphite would not prevent the development of bacteria (*Amer. Jour. Med. Sciences*, April, 1883), and in his edition of *Negris*, he quotes Arloing as saying that a 50g solution does not destroy the virus of symptomatic anthrax, and Deogall as saying that it is useless as a germicide. The same results were obtained with the sulphite of sodium.

Salicylic acid prevented the growth of bacteria in a solution of 1-200, a proportion we could not hope to attain by its internal administration, and, even if we could, it probably unites in the

bodily with some base to form a salt which is less poisonous to bacteria.

Bromine is a germicide, and has been used to some extent in diphtheria, but as we could not expect it to exist in the blood in a free state, we cannot expect it to act as a germicide.

Alcohol from its well-known power as an antiseptic and from its well-known beneficial effects in infectious diseases, effects which seem to be more than a mere stimulant action on the heart, and from the freedom with which it can be administered might be expected to act as a germicide in these diseases if any drug could, and it has been asserted that such was the case. But every microscopist has observed the presence of bacteria in fluids containing a large proportion of alcohol, and Sternberg found that a 10% solution was the weakest that would prevent their development. One of the bacteria he experimented with was the micrococcus of septicaemia, a disease which we generally consider calls for the free use of alcohol. The development of this bacterium was not prevented by the presence of a 5% solution, and as even this proportion would call for the presence in the blood of thirteen ounces of alcohol, it is plain that it can have no germicidal action in any non-toxic amount. Another remedy which has a universal reputation in certain infectious diseases, especially diphtheria and septicaemia, is the tincture of iron. Sternberg found that a proportion of 4% of this preparation was required to kill the micrococcus of pus and septicaemia and that even this strength did not prevent development of bacterium *tertio*. We can use this preparation freely without danger, but evidently not to an extent that would enable it to act as a germicide. Sternberg also experimented with other substances which might be expected to act as germicides, but none of them had any germicidal action in a proportion approaching an amount that would for that reason make them of medicinal value. Among them were, chloral chloride of zinc, sulphate of zinc, chloride of potassium, arsenic, sulphate of iron, boric acid, borax, &c.

Potassium permanganate, under certain circumstances, is a most efficient disinfectant, but if the bacteria are mingled with organic matter, as they are under all practical circumstances, the permanganate is decomposed immediately, and for this reason it is of little practical value either as an internal or external disinfectant.

Having passed over, in a very superficial way, most of those dis-

infectants whose use as internal germicides has been proposed, we have left for discussion that disinfectant whose medicinal use as a germicide has been the most extensive, and has attracted the most notice. I refer to the bichloride of mercury. Undoubtedly it is the most potent germicide yet brought into use, and like all the rest is a powerful poison to all living things, from man down to a bacterium. Since coming into use as an antiseptic in surgery, its internal use as a germicide has been strongly recommended in diphtheria, and the journals have contained many opinions favorable to its use. In this country its use was first introduced by Dr. G. A. Linn of Pennsylvania, as referred to by Prof. Pepper, in his address on medicine, at the meeting of the American Medical Association, in 1881. Prof. Pepper spoke favorably of its use, but disclaimed any extended experience with it. In the *Therapeutic Gazette* for January, 1884, an article appeared, by Dr. F. C. Herr of Philadelphia, advocating its use in diphtheria. He reports six cases of his own where he gave $\frac{1}{2}$ grain doses every two or three hours, to children from fifteen months to three years of age, and all recovered. He also referred, in a general way, to success obtained by other physicians with the same method.

Dr. Linn, at the May, 1884, meeting of the American Medical Association, read a paper on the specific treatment of diphtheria. He reported no cures, but claimed that it was a specific if given early, and in large doses. He gave from $\frac{1}{2}$ to $\frac{1}{3}$ of a grain every three hours to a child two or three years old, and from $\frac{1}{2}$ to $\frac{1}{3}$ of a grain to an adult. (*N. Y. Med. Jour.*, May 24, 1884.) Dr. Thurlton of Brooklyn, read a paper on this subject before the Kings Co. Medical Society, which was published in the *N. Y. Medical Journal*, April 12, 1884. In this article he reports ten cases of diphtheria treated by the bichloride, and all recovered.

There is no doubt that these cases took bichloride of mercury, and recovered. Whether they took sufficient of the germicide to destroy or prevent the development of the bacteria is another question. Sternberg found that the development of the septic micrococcus was prevented by the presence of the bichloride in a proportion of 1-10000. This is a more favorable result than he obtained with other bacteria, and more favorable than some other experiments have reached. But taking this as sufficient to prevent the development of all bacteria, we find that to sterilise the eighteen

points of blood of our standard man, there would be required three grains of the bichloride.

As Sternberg and Thallon both give the amount required as three and a half grains no one can claim that I have over-estimated the amount. Of course this is for adults; in children, the dose would be proportionately smaller, according to the weight or age. In studying these cases, then, it is necessary to note whether they took this amount of the bichloride or a proportionate amount. If they did not reach this low standard, then any claim as to the germicidal action of the drug has little basis. In Thallon's second case the weight of the child is given as forty pounds. The amount of the blood would be, in a person of this weight, five pints, requiring, according to our proportion of 1-40000, a little over one grain, to sterilize it. At the rate this child took the drug, $\frac{1}{4}$ grain every three hours, and after the first thirty-six hours every hour and a half, it would have taken three and a half days to have introduced into the blood that amount of the germicide, and the record of the case shows that convalescence began in two and a half days. Case first had taken only $\frac{1}{4}$ grain when improvement began. Case tenth had taken only $\frac{1}{4}$ grain. The other cases show the same thing. These facts simply show that the disease came to a standstill before the patients had taken sufficient of the germicide to destroy the germs under the most favorable assumptions.

Dr. Jacobi, in an article read before the New York Academy of Medicine (*N. Y. Med. Record*, May 24, 1884), reported three cases of diphtheritic croup, "as examples out of many others," to show the efficacy of the bichloride treatment. His conclusions were that the mercurial treatment of diphtheria is promising of good results, and also that $\frac{1}{4}$ grain of the bichloride could be taken in the twenty-four hours by "babies," and as a rule, no administration could be kept up for many days, if necessary, without bad effects. The first case, a girl three and a half years old, was given $\frac{1}{4}$ grain hourly, till $1\frac{1}{4}$ grains had been taken in about thirty hours, when diarrhoea came on. The next twenty-four hours only $\frac{1}{4}$ grain were taken, as the bowels were still irritable. The next day the patient was better. The second case, an infant five months old, was given $\frac{1}{4}$ grain hourly. The child took $1\frac{1}{4}$ grains in a little less than five days. The third case was a child two years of age, which, after the operation of tracheotomy, was given the bichloride as $\frac{1}{4}$ grain every hour, till the third day, when, on account of irritation of the

bowels, it was stopped. About $\frac{1}{4}$ grains were taken in all. Each of these cases probably took sufficient of the bichloride to supply the blood with the proportion of $\frac{1}{100,000}$ provided it was all absorbed and none excreted. As excitation takes place with a good deal of rapidity, to reach the required standard would require still larger doses than these children took. It is worthy of notice that all these cases had more or less vomiting and diarrhea, and that the one taking the largest dose in proportion to its age was sick the longest. This case shows one thing, that a child five months old can take nearly $\frac{1}{4}$ grain of the bichloride daily, for several days and recover. Ordinarily we would not give an infant of this age more than $\frac{1}{16}$ of the dose for an adult. An adult taking a dose equivalent to that which this infant took would get ten grains of the bichloride daily, a dose that few of us would care to begin with, and one that I do not believe any adult could take.

It is asserted that these large doses of the bichloride can be taken without danger. The minimum poisonous dose of this drug is not definitely known. Wharson and Still quote Taylor as saying that three grains have caused death in a child, and that probably the fatal dose is about the same as arsenic, two or three grains. As in case of other poisons, large doses have been taken without fatal effect, and as we have seen, a child five months old took an amount equivalent to ten grains daily for an adult, for nearly five days, and recovered. We all have seen cases where comparatively small doses caused irritation of the stomach or bowels. All three of the cases related by Dr. Jacobé suffered more or less from vomiting or diarrhea. In order to test the tolerance of the bichloride, Dr. A. H. Smith of New York (*Med. Recd.*, Sept. 24, 1884), administered to eleven persons doses ranging from $\frac{1}{8}$ to $\frac{1}{4}$ gr. hourly or every two hours, taken only during the day time. Six of the eleven in from three to five days developed diarrhea or pyalism. Two of the cases which took it in about the same doses as the others without irritation, were children. In the case where diarrhea occurred, less than two grains were taken in about four days' time. These cases do not seem to show any certain tolerance of the drug in much smaller doses than we use as a germicide would render necessary. It is probable that the reason children have taken such large doses without constitutional effects, is that milk being such a large element in their diet, and especially if they are sick,

the mercury is converted into an albuminate in the alimentary canal, and is less irritating.

Even the external use of a solution of the bichloride is not without danger. H. C. Wood (*Therapeutics*, p. 375), refers to a case of fatal poisoning in a child nine years old, the result of an application of a solution of BiCl_3 applied to the head. Recently evidence has been accumulating to show that the freedom with which it has been used in surgery is not without danger. Dr. Geo. L. Peabody of New York (*Med. Record*, *Med.*, 14, 1885), reports eleven cases of obstinate diarrhea following the surgical use of a solution of bichloride from 1-1900 to 1-2000. In four of the cases the diarrhea ceased on discontinuing the drug. In seven cases death occurred. An autopsy was made in three of these and "in each of them a very extensive diplocheritic inflammation of the large intestine was found." In most of these cases the bichloride was used as an injection into sinuses or abscesses.

Dr. Peabody also refers to different articles in the German journals setting the same fact. He states that Fraenkel reports fourteen autopsies where toxic enteritis resulted from the external use of the bichloride. Schede and Thoms have also written upon this subject, giving cases of poisoning and death from its use. Dr. Hullsart of St. Louis reports (*Med. Record*, *Med.*, 24, 1885) that five of his patients became asphyxiated by the use of a 1-2000 solution of bichloride as a vaginal injection. In these cases it is impossible to say how much was absorbed, but certainly only a small part of that used.

In connection with the poisonous effect of this drug, an important point to be considered is the effect upon the kidney. A not uncommon effect of the bichloride is the irritation of the kidney causing in chronic poisoning albuminuria, and in acute poisoning bloody urine, albuminuria, and suppression. This point should be considered in connection with its use in diphtheria, where albuminuria is such a common and serious result in severe cases. Those who have written on this subject seem to consider pyralium a perfect gauge of the constitutional effect being produced. Particularly Thalloz, who says that we have in its action on the salivary glands a convenient clinical indication of the effect being produced, especially its destructive action. (*N. Y. Med. Jour.*, Apr. 13, 1884). They all appear to have lost sight of the well-known facts that salivation is not easily produced in children, and that in all

persons the bichloride has a much more pronounced effect upon the alimentary canal than upon the salivary glands.

In fatal bichloride poisoning the prominent symptoms are the purging and collapse, with feeble circulation, and it is well worth remembering that the feeble circulation and the albuminuria, as well, prominent symptoms of diphtheria, so that if one is giving the bichloride, and especially if opium is being given at the same time to control the bowels, he should be able to convince himself that the failing circulation and the albuminuria are due to the disease and not to the remedy. Considering all the facts in the case, the frequent occurrence of symptoms of irritation from moderate doses, and the not infrequently presence of constitutional effects from its external use, it seems to me that it has been given in doses beyond the line of safety.

Never having seen any reason for giving this drug as a germicide, I have no personal experience with this use of it, neither was it part of my plan to consider the clinical results of the treatment, for as I have stated before, even if clinical experience showed that it was a specific for diphtheria, that would be no proof of its germicidal action, but in looking over the cases reported, I see no reason to suppose the results better than under more usual methods.

Dr. Jacobs quotes three observers as reporting together 243 cases with 21 deaths. If we add to these Thallon's 16 successful cases, we have a death rate of a little over 8%. Considering the ease with which enthusiastic investigators of new drugs collect favorable statistics, this is not a particularly good showing. Other methods of treatment have brought out as good if not better figures. It is easy for any treatment to give a series of successful cases, especially after the severity of an epidemic is over, and particularly if the physician is one who sees diphtheria whenever the fauces present something with a whitish membranous appearance. No disease has had more specific remedies proposed for its cure than diphtheria. They all have shown favorable statistics on their introduction, but so far they have all become a thing of the past, and have never attained that standing among the profession as a whole which every drug of real value easily obtains.

In all the foregoing remarks we have accepted as true the premises upon which the advocates of the germicidal action of drugs base their claims. They assume that no more of the germicide is necessary to prevent the growth of the bacteria of disease in the

blood than is required to prevent their development in a culture fluid. The conditions are not parallel. All experiments show that more of the germicide is required to kill bacteria in active growth, than to prevent their development, but as we treat cases in practice, the bacteria are well started in their mortal combat before we are able to recognize the existence of disease. Sternberg's experiments show that a strength of 1-20000 is necessary to kill the bacteria of pus and septicaemia after their development is once begun, and in the case of bacterium termo, and the putrefactive bacteria of broken-down beef tea, 1-10000 is necessary. If then we have a case of septicaemia where we wish to destroy the poison in the body, we would be obliged to give twice the amount of bichloride we have used in our calculations, namely, six grains. Another fact they take for granted is that bacteria are as easily killed in the body as under the artificial conditions of a culture fluid. When pathogenic bacteria are multiplying in the body, they are existing under what are to them perfectly natural conditions, and it does not seem reasonable to suppose that they can be as easily killed as when they exist under the purely artificial surroundings of laboratory experiments. That this does make a difference is shown by the larger amount of the bichloride required to kill the bacterium termo as compared with the micrococci of septicaemia. The latter growing in a culture fluid were killed by the bichloride in a strength of 1-20000, while the former one of the putrefactive bacteria, and so when, as in these experiments growing in beef tea it existed under natural conditions, required the germicide in the strength of 1-10000 twice as much.

Another thing to be considered is the complex chemical character of the blood as compared with a culture fluid. It is difficult to add any of the germicides to such a fluid without getting some chemical reaction which may render the germicide a less powerful poison to the bacteria. Another assumption made is that bacteria develop only in the blood, and all that is necessary is to render the oxygenous points of blood an impossible field for their growth. This idea is in accordance with our ordinary usage in speaking of the infectious diseases as being due to a poison circulating in the blood. On the other hand, as a fact, most of the known pathogenic bacteria are found in the tissues outside of the blood-vessels. On account of this, then, in order to succeed in any germicidal treatment we shall be obliged to administer enough of the germi-

cide to sterilize all the tissues of the body. This would obviously require an amount of the germicide, which in the case of any now known disinfectant, it would be impossible to give without fatally poisoning the patient.

All of the germicides thus far used are equally poisonous to man and bacteria; probably more poisonous to man, for as a rule the more highly organized an animal the more easily its life is removed. Bacteria are of a lower organization than the cells of the body or blood, and there seems to be no reason why the germicide should not act just as disastrously to these cells as to the bacteria.

The experiments of Prudden show that this is the case with carbolic acid (*Am. Jour. Med. Sciences*, Jan. 1881). He found that a solution of 1-3200 applied to the ciliated epithelium of the tongue of a frog caused death of the cells. The white blood cells were also experimented with in a similar manner, showing that a solution of 1-1600 applied to the cells outside of the body stopped the amoeboid movement and killed the cells. A solution of 1-3200 applied to the bladder or mesentery, where the circulation could be observed, was found to stop the amoeboid movement and emigration of the cells. As they passed inward in the circulation it was impossible to demonstrate their death. As these solutions were weaker than those necessary to kill bacteria, we must infer that carbolic acid used internally would seriously interfere with the vital functions before it killed the bacteria. We may reasonably suppose the same to be true of the other germicides.

If the theory of the germicidal treatment of disease is correct, it would seem as if the treatment of the external parasitic diseases should furnish some analogy in its favor. When we endeavor to kill the parasites of ring-worm, furus, etc., we find it necessary to use comparatively strong solutions of some germicide—mercury, iodine, copper, etc., to an extent that no one would think of its internal medication.

Choyce (*Brit. Med. Jour.*, July 24, 1884,) has proposed a treatment of gonorrhoea based upon the local use of germicides. His plan calls for the use of a bougie or five grains of iodoforn and ten minims of oil of eucalyptus followed by the use of an emulsion of eucalyptus oil of the strength of 1-20. Evidently this plan, even if successful, requires the use of germicides to an extent impossible in internal use. Crede's method of preventing ophthalmia

securatorum depends upon the germicidal action of an application to the eyes of a two per cent. solution of nitrate of silver. He found that a one per cent. solution failed (Garrigue, *Ann. Jour. Med. Science*, Oct., 1884.) Here also it will be noticed that a large amount of the germicide is required. It is the same with the use of antiseptics in surgery. Surgeons consider it necessary to use the tincture in the strength of 1-1000, or 1-2000 never less than 1-5000, to be sure of preventing the growth of bacteria. There seems to be nothing in the external use of germicides to indicate that they can be used as such internally.

Advocates of this theory of germicidal treatment point to syphilis and intermittent fever as two infectious diseases for which we have specific remedies, mercury and quinine, and claim that they act by directly killing the germs of these diseases. As the poisons of these diseases have never been isolated there is no proof of this and from analogy there is every reason to suppose that they act in some more indirect way. If the bacteria of syphilis are directly killed by the comparatively small doses of mercury necessary to cure this disease, then we must assume that they are more susceptible to the action of that drug than any known bacterium. The same applies to the bacteria of intermittent fever. So far as we know the pathogenic bacteria are acted upon in much the same general way by the germicides. Each bacterium is killed by all the germicides, and each germicide kills all the bacteria. If quinine directly kills the bacteria of intermittent fever, we should expect it to kill the bacteria of syphilis in about the same dose, and the same in the case of mercury and syphilis.

In order to test the germicidal action of drugs there can be no better way than to experiment on animals by inoculating them with the poison of some disease, and then after the disease has begun, giving the germicide by the mouth or hypodermically. Some reliable experiments have been made in this way, but in none of them have any effects been obtained from the use of different germicides.

It seems to me that the only conclusion which can be legitimately drawn from all the facts in the case, is that it is impossible to introduce into the body sufficient of any now known germicide to destroy the bacteria of any disease. Whether a specific for all or any of the infectious diseases will sometime be discovered is an interesting question.

Even in those diseases in which it is considered settled that the germs bacteria have been discovered, we know almost nothing about their life history in the body. We have some reason to suppose that the bacteria produce a chemical change in the tissues of the body, forming a chemical poison which causes the symptoms of the disease. We know that certain forms of bacteria in the process of their growth produce alcohol and carbonic acid from sugar; another, acetic acid from alcohol; another, lactic acid in milk, etc. The cases of violent vomiting and purging which occur as the result of eating meat in the earliest stage of decomposition, are supposed to be due to some chemical substance produced by the growth of certain forms of bacteria. Bardon Sanderson found that the bacteria of septicæmia produced a chemical body which he termed sepsin. If this sepsin was introduced into the circulation in animals symptoms of septicæmia resulted, coming on soon after the injection, and passing off after a time if a fatal dose was not given, behaving in every respect like any chemical poison.

In this connection is another interesting fact. It has been found that the putrefactive bacteria in their growth feed in some way from the tissues which they decompose certain germicides, phtal, skatol, indol, and many other substances chemically allied. Each of these substances, if present in sufficient amount, destroy the bacteria which created it. Something analogous to this has been thought to be the cause of the immunity of persons from a second attack of most of the infectious diseases. That is, the first growth of bacteria produced a substance which would prevent the growth of the same bacteria a second time. It is possible, then, that there may be a chemical substance causing the symptoms of the disease, and another substance which stops their growth, and prevents their subsequent development. Chemistry has achieved many wonders, and it is possible she may present us with a substance which will be a chemical antidote to this poison produced in the tissues by the bacteria, or possibly with that substance which prevents the second development of a disease. If we had either of such substances they would be specific remedies such for its own disease. With drugs acting in this way we can see how a remedy may be a specific for one infectious disease without directly killing the bacteria. It is also possible that chemistry may furnish us with a substance which will be a certain poison to the bacteria of all the infectious diseases, and not injurious to man.

But while science is working out these complex problems let us treat the infectious diseases empirically, with those remedies which experience has demonstrated to be the most productive of good, namely: fresh air, good food, cleanliness, iron, alcohol, and quinine and if we feel called upon to kill the germs developing to the injury of our patient's body, let us be sure we are not administering a remedy more deadly to the patient than to the bacteria.

ESSAY.

ARE THERE ANY SYMPTOMS OR CRITERIA BY WHICH WE MAY DIAGNOSE INSANITY FROM CRIME WHEN MADE AS A PLEA FOR CRIMINAL ACTS?

By PATRICK CASSIDY, M.D., NEWTON, MASS.

Authors consulted in the preparation of this essay: Hammond—Treatise on Insanity. Ray—Medical Jurisprudence of Insanity. Wharton & Stille—Medical Jurisprudence. Couston—Mental Diseases. Brown—Medical Jurisprudence. Morel—Psychological Medicine. Spitzka—Insanity. Hamilton—Medical Jurisprudence. Ostromous—Judicial Aspects of Insanity. Maudsley, Bockstein, and Tuke.

Psychology may be classed among the authoritative sciences. From crude and insignificant beginnings it has expanded with astounding rapidity, and at the present day commands the undivided attention of the ablest of the medical fraternity. Its importance is attested by the number of journals devoted to its study; and well may it claim attention, for the elaboration of no science has done more to ameliorate the condition of the human family. It has revolutionized the treatment of the insane, restored to home and society many unfortunates, and erased from the character of others the stigma of crime. Thus far the knowledge of Psychology is commendable, but by its very definitiveness, its critical insight into the actions, healthy and unhealthy, of the mind, its extensive and intricate views of responsibility and irresponsibility, it has opened an avenue through which the guilty may at times escape the edicts of justice, and the innocent suffer. Though some of bloodshed and violence may be deplored, it is but natural for friends to endeavor to condone the offense, and to excite the populace to feelings of sympathy in behalf of the accused, and to have an insane cell substituted for a felon's. So, also, it is a consolation to the family moving in the higher walks of society to trace its

fallen member from the commission of some foul crime, and to recognize in him but a mental darkness caused by a Dolt.

That a provident father, an indulgent mother, or a loving sister should discover in a guilty son and brother the symptoms of mental disease, rather than depravity, is but a natural proceeding. But though friends may close their eyes to our faults and errors, seeing virtue where there is naught but vice, ever ready to defend our actions by interposing in our behalf, yet crime as crime must and should be punished. The duty of the government, the rights of society demand it, and our science, to prove salutary, must become a willing adjunct to the execution of just laws. Now, to inflict punishment for acts committed, the distinction between crime and insanity should be clearly defined. This necessitates a knowledge of what insanity really is, and how we may judge the responsibility of an alleged insane criminal. To the physician this is a most arduous and difficult task, for among the enormous mass of literature on the question, he finds confusions upon confusions. Yet the question of responsibility is no longer confined to learned psychologists or sensitive jurists, it has run rampant through every column of news, from the alienist journal down to the country newspaper. Even more, the general public are ever ready to give an original idea on the tests of right and wrong when insanity is set up as an excuse for a crime. This only illustrates the deep root the question of insanity has taken, not only in the profession, but also among the laity.

Let us see for a moment how the minds of men in general are swayed whenever this question is deliberated upon in their midst. Suppose a crime of unusual atrocity be committed, and if there be no other defense, the plea of insanity will invariably be advanced. Now the public is led by sympathies rather than by reason, and when it first hears of such a crime, all its sympathies are with the victim, and were it to have no way, the criminal would at once be given to the tender mercies of "Judge Lynch." Such, however, reaction takes place, the public reasons: nothing we can do will bring the dead man back, and they are only too glad to adopt any reason which has the slightest appearance of truth as a means of leniency for the criminal. Therefore many are always sure to accept insanity as an explanation of the crime. The wily lawyer readily adopts this as a defense, and is supported by certain members of the medical profession, who advance novel and strange

theories for explaining that emotional, pathetic, and moral insanity (these terms being used synonymously) are ordinary physical causes of moral depravity and crime of unusual atrocity.

Some of these maintain that all moral depravity is moral insanity, and that one may be insane at the instant of criminal act and perfectly sane at the instant preceding the act and following it, and at all the other instants of his life; that one may be perfectly sane as to his intellect and yet plan and execute a criminal act by compulsion of an insane will, and that any crime of an unusual or revolting character is inhuman and unnatural, and is at once ascribed to a madman, and therefore an insane man did it. Although we know in some it is but a natural and healthy instinct to consider no other's life or property sacred but their own, and for the preservation of some joy or advantage are willing to sacrifice the lives and fortunes of others—to these such acts are neither unnatural or insane.

The courts, as we may presume, recognize this fact, and do not accept insanity as existing merely because the crime is enormous and is committed without reasonable motives.

A plea of insanity must be sustained by sufficient proof, and hence great effort and ability have been directed toward establishing some legal test of mental insanity by which to rule all cases of the kind. Members of the medical profession are called to assist the jury, who are duly instructed on these tests, in order to aid them in determining as to the fact, if any, of the distinct symptoms, and the true nature of mental insanity, of the particular case before them. There is usually no great difficulty when the offender is a raging maniac, or confirmed idiot; but the perplexing case is that of the accused who has method in his madness, who deliberately planned, selected the means, and executed a criminal work—can such a person be really insane? And if so, by what tests, symptoms, or criteria can it be certainly determined, that he is of insane mind, and therefore not punishable? With a view to the ascertainment of these facts, the courts at different times have laid down certain tests for distinguishing insanity. Lord Coke, in the year 1660, merely classified madmen, as those persons mentally diseased, and described four kinds:

"The first an idiot, who from his nativity, by a perpetual infirmity is *lex semper insanus*."

Second, "He that by sickness, grief, or other accident wholly loseth his memory and understanding."

Third, "A lunatic who sometimes has his understanding, and sometimes not (*aliquando quædam lucida intervalla*), and therefore he is called *non compos mentis*—so long as he hath not understanding."

Fourth, "He that by his own vicious acts for a time depriveth himself of memory and understanding as he that is drunken."

There is here given no definition of insanity—the first is unintelligible, without a definition of the word *stult*—the second describes a condition which was never realized in fact, as no lunatic was ever entirely deprived of memory and understanding—the third he refers only to that form of partial insanity, which is marked by local intervals, without giving any symptom by which the insanity on one or more subjects may be recognized, and not to that form of insanity with which you and I are familiar, known at the present day as *monomania*, and which is characterized by delusions on one or more subjects, while the individual thus affected is rational in other matters. This came to be recognized in time, as we find Lord Hale and others ruling that there is a partial insanity, and a total insanity. That a man may be *non compos mentis* upon one point, without being *non compos mentis* altogether, and that this partial insanity seems not to excuse one in the commission of any offense, for no matter capital. Thus in 1723, when Arnold was tried for shooting Lord Ouseley, Tracey, judge, remarked it is not every kind of frantic humor or something unaccountable in a man's action, that points him out to be such a madman as to exempt him from punishment, it must be a man who is totally deprived of his understanding and memory, and not to know what he is doing, no more than an infant, a brute, or a wild beast. But that great versatile genius Lord Erskine, in 1799, when defending Hatfield, who was charged with shooting at the king, used these words, "No such madness ever existed in the world, as the entire privation both of understanding and memory." Up to this period, 1800, the ruling of the courts furnished no definition of insanity, nor laid down any test or symptom by which insane reason can be distinguished from reason that is sane. It was Erskine in his great speech in defense of Hatfield, who was the first to affirm that where there was no frenzy or raving madness, delusion is the true test or distinctive symptom of insanity.

Here are his words in his speech for the prisoner, "Delusion therefore, when there is no frenzy or raving madness, is the true character of insanity." After rejecting the old test, on the ground that no insane man was ever without all remembrance of what is past, and of all power of judging what is present, said, "In all the cases that have filled Westminster Hall, with complicated consideration the insane person had not only had the most perfect knowledge and recollection of all the relation they stood in toward them, and of the acts and circumstances of their lives, but had in general been remarkable for subtlety and acuteness, that puts on the shade the ordinary conception of mankind, their conclusions are just, and frequently profound, but the premises facts which they reason upon within the range of these usually are uniformly false; not false from defect of knowledge or judgment, but because a delusive image, the inseparable companion of real insanity is thrown upon the subjugated understanding, incapable of resistance because unconscious of attack."

Delusion from this time for twelve years was the test for insanity followed by the courts, but in 1812 Bellingham was tried for the murder of Spencer Percival, and from the testimony of several reliable witnesses the prisoner labored under many of these strange delusions that find a place only in the brain of a madman. His fixed belief was that his own private grievances were national wrongs, that his country's diplomatic agents is a foreign land neglected to hear his complaints and assist him in his troubles. In this conviction he was firm to the last, which was that the government would make good his losses, although told by many officials that the government would not interfere in any of his affairs. Then his determination, on the failure of all other means to bring his case before the public, was to assassinate the head of the government, by which he would have an opportunity to make a public statement of his grievances, and obtain a triumph. These were all delusions as wild and strange as those of seven-eighths of the inmates of any lunatic asylum. Insane delusion was pressed upon the jury, as a defense for the crime, and though he himself denied the imputation of insanity, the attorney-general virtually acknowledged the existence of insane delusions, but asked for his conviction on other grounds. He thus argued upon the authority of the first sages in the country, and upon the authority of the established law in the land in all times, which law has never been

questioned, that although a man may be incapable of conducting his own affairs, he may still be answerable for his criminal acts, if he possesses a mind capable of distinguishing right from wrong. Lord Chief Justice Mansfield, who tried the case, defined the same doctrine in his charge to the jury, in speaking of a species of insanity in which the patient fancies the existence of an injury, and seeks an opportunity of gratifying revenge by some hostile act, he says, "If such a person were capable in other respects of distinguishing right from wrong, there was no excuse for any act of atrocity he might commit under this description of derangement."

Lord Lyndhurst confirmed the law in 1823; and again in 1831, Mr. Justice Park told a jury holding in their hands the life of a fellow man, that as regards the effect of insanity on responsibility for crime, it is merely necessary that the party should have sufficient knowledge and reason to discriminate between right and wrong. Thus it will be seen from 1812 to 1843, the decisions given were: That insane delusions did not remove criminal responsibility in one who retained the power of distinguishing right from wrong.

In 1841 one McNaughten met in one of the streets of London Mr. Drummond, private secretary to Sir Robert Peel, and shot him dead with a pistol. For some time previous McNaughten entertained the delusion that he was pursued by enemies who followed him everywhere, blasting his fame, disturbing his peace, and filling him with intolerable disquietude, fancying Drummond to be one of the crew, he shot him. His insanity was not obvious at sight, he had recently transacted some business, had interviewed some of his relations in their true light, and had behaved with much propriety in his ordinary intercourse with men. He was defended by able and zealous counsel who reviewed Ekin's defence of forty-three years before, and urged on the minds of the jury, defence as a defence. The courts readily favoured this view of the case, and he was acquitted. The populace, however, were far from being satisfied with the result, for they beheld only two facts in the case; a worthy man had been shot down in broad day, without provocation, by one who could transact business, discourse correctly, and who showed no very obvious symptoms of insanity.

The House of Lords participating in the popular feeling, proposed four questions to the Law Judges, with the request that

they would agree upon, and report answers, in order that the courts might, if possible, settle upon some uniform rules and doctrines, capable of embracing every possible case and doing injustice to none.

The queries, as may be seen, imply a doubt as to the correctness of the doctrine. That delusion of itself should acquit unless accompanied by some other mental disability. These questions and their answers were as follows:

Question I. "What is the law respecting alleged crimes committed by persons afflicted by insane delusions, in respect of one or more particular subjects or persons, as, for instance, when at the time of the commission of the alleged crime, the accused knew he was acting contrary to law, but did the act complained of with a view, under the influence of insane delusion, of redressing or avenging some supposed grievance or injury, or of producing some supposed public benefit?"

Answer. "Assuming that your Lordships' inquiries are confined to those persons who labor under such partial delusions only, and are sane in other respects insane, we are of opinion, that notwithstanding the accused did the act complained of with a view, under the influence of insane delusions, of redressing or avenging some supposed grievance or injury, or of his producing some public benefit, he is nevertheless punishable, according to the nature of the crime committed, if he knew at the time of committing such crime that he was acting contrary to law, by which expression we understand your Lordships mean the law of the land."

Question II. "What are the proper questions to be submitted to the jury where a person alleged to be afflicted with insane delusion, respecting one or more particular subjects or persons, is charged with the commission of a crime, murder for example, and insanity is set up as a defense?"

Question III. "In what terms ought the question to be left to the jury as to the prisoner's state of mind at the time when the act was committed?"

Answer. "As these two questions appear to us to be more conveniently answered together, we submit our opinion to be: That the jury ought to be told in all cases that every man is to be presumed sane and to possess a sufficient degree of reason to be responsible for his crime until the contrary be proved to their satisfaction, and that to establish a defense on the ground of insanity, it must

he clearly proved that at the time of committing the act, the accused was laboring under such defect of reason from disease of mind, as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know he was doing what was wrong."

Question IV. "If a person under an insane delusion as to existing facts, commits an offense in consequence thereof, is he thereby excused?"

Answer. "On the assumption that he labors under partial delusions only, and is not in other respects insane, he must be considered in the same situation as to responsibility, as if the facts with respect to which the delusion exists were real. For example, if under the influence of delusion he supposed another man to be in the act of attempting to take away his life and he kills that man, as he supposes in self-defense, he would be exempt from punishment. If his delusion was that the deceased had inflicted a serious injury to his character and fortune, and he killed him in revenge for such supposed injury, he would be liable to punishment."

This authoritative statement of the law laid down by these judges (who undoubtedly were aided in framing these answers by the best medical talent to be found), is the one generally adhered to by the courts of England, and of the United States; although it is scorned and emphatically condemned by many leading members of the medical profession of our day, whose reasons for regarding the judges who framed them, as possibly upright, but undoubtedly foolish, shall be given further on in this article.

The two professions, lawyers and physicians, held different views with regard to the definition of insanity. That of the lawyer means conduct; of the physician, a disease, one of the effects of which is to produce such conduct. Medical men infer the existence of disease from symptoms; and therefore it is necessary first to understand rightly the manner in which the healthy human mind acts; how it forms its ideas of objects, and to know clearly that the intellect depends entirely on the senses and imagination for the presentation of all the objects of its thoughts and ideas.

The average brain of a male European and his descendants, weighs about forty-nine ounces, and "no matter," says Dr. Hammond, in his latest work on insanity (page 17), "how perfect the rest of the nervous system might be, no matter how complex the cerebral convolutions, or how thick the grey matter of the cortex,

there would be no mind but for the special senses. The brain can originate nothing, ideas are not innate they are derived entirely from without; therefore if it were possible for a man to be born and to live without sight, hearing, touch, taste, or smell, even though he possessed the brain of a Socrates in size convolutions and grey matter, he would never be able, though he lived for all eternity, to embrace the idea that one and one make two, neither could it in any way be taught him." Hence perception is the starting point of all education, and it receives its impressions from the special senses, six in number—sight, hearing, touch, taste, and smell, and muscular, the latter by which we determine the weight of bodies. Without these special senses and a nerve to transmit the peculiar impressions they make upon the brain and a ganglion center to convey the impressions into perception, there would be no mind.

Perception causes the evolution of another force, existing in the more complex part of the brain, the cortex, where perception is resolved into an idea, to the formation of which several important faculties of the intellect are brought into action, namely—memory, judgment, abstraction, reason, and imagination.

An idea or perception in its turn, will excite another force of the brain, which is called emotion. According to Bain, the word emotion is used to comprehend all that is understood by feeling, pleasure, pain, passion, sentiment, and affection. Hammond says (page 22), "certain animal appetites, as the desire for alcoholic liquors, opium, chloral, the pleasures of the table, gambling, sexual intercourse, are sometimes regarded as emotions, but they are entirely different, as they rest upon a lower plane; in his opinion, they are the starting point from which the emotions spring." These bring into action another force of the mind, which is called will, the rational appetite, the moral sense, the governor of all our acts, our conscience, the power of desiring or choosing.

Therefore in an individual, whose brain is well-constructed and of the normal size, free from structural changes, nourished neither excessively nor deficiently with healthy blood, the perceptions, the intellect, the emotions, and the will act in perfect harmony, and in a manner which within certain limits is common to mankind. Slight changes in the structure or nutrition of the brain induces corresponding changes in the mind as a whole, or in one or more of its parts or faculties, while more profound alterations are

accompanied by more severe and extensive mental disturbances — Hence we have two conditions of the brain which produce insanity. First, organic changes in the brain, which I will call *mental disease* — Second, changes in the nutrition of the brain, which I will call *diseased mental action*.

As an enumeration of the different classifications of insanity would carry this essay beyond its proper limits, I will merely adopt that of Dr. Ray, the same also as Esquirol's, since it preserves the divisions made by nature, and corresponds to the two divisions of mental insanity, I have made above — they are *idiotcy, imbecility dementia, mania, and monomania*. Idiotcy and imbecility are manufactured articles resulting from congenital defect or from lack of development of the faculties in infancy. Dementia supervenes on what was originally a sound and well-developed brain, it follows certain acute diseases or traumatic injuries of the brain, as in organic changes peculiar to old age. These I class under *mental disease*, as in them there are always organic changes and they are easily recognized.

The second class, which I call *diseased mental action*, because in them there are very seldom to be found any organic changes in the brain, is known by the name of *mania*, divisible into two broadly distinguishable groups of cases. First, *acute mania or raging frenzy*. When the offender is under the control of raging mania, idiotcy, imbecility, cretinism or dementia, there is usually no great difficulty in physicians and lawyers agreeing. But the perplexing case is when the accused is under the control of one of the divisions of the second group of diseased mental action, which is known by the name of *monomania*; when the patient has method in his madness, when he can deliberately plan, select the means, and choose a proper time to execute a criminal work. Can such a person be really insane? and if so, by what test or symptoms can it be certainly determined that he is of insane mind, and therefore not punishable?

The law-judges of England say, in their answers to the questions propounded to them, that in order to judge the moral character of a person's acts, done when such person is under the control of insane delusion on one subject, we must assume that the facts are just what he imagines them to be, and then to judge his act by those facts, as if they really existed. If one burns down his neighbor's house because he insanely fancies that God commanded

him to do so, his act is not punishable, but if he burns the house out of revenge, because his delusion is that his neighbor robbed him of his good name, then he is guilty, supposing that his mind was sane in all else and he knew revenge to be unlawful.

"Delusion with inability to distinguish right from wrong," is the test laid down by the judges, in their answer to the House of Lords, to that form of insanity from which is excluded idiosy, dementia, frenzy or raving mania, in which the specific action of intellect and will is scarcely observable at all. Hence I will confine myself entirely to that form of insanity, which Esquirol calls *delusional*, as according to him delusion is the inseparable companion of intense mental action.

The ability or inability of distinguishing right from wrong, is not a test of insanity, but is the test of rational knowledge, presupposing the mind to be in its healthy normal state. The question still to be answered is, What is the test of that mental insanity, which deprives the mind of its power to distinguish right from wrong? The jurist, Esquirol, says delusion and the correctness of this principle is recognized by the courts.

Now let us hear what medical men say, and it is not just to let them speak for themselves. Doctor Ray, among the most able of our American writers on medical jurisprudence, says, in his fifth edition, published 1873 (page 38).—"If the intellect is exclusively liable to derangement, delusion would be an unobjectionable test and would furnish an easy and satisfactory clue to the elucidation of doubtful cases." But it must not be forgotten that the Author of our being has also endowed us with certain moral faculties, comprising the various sentiments, propensities, and affections, which, like the intellect, being connected with the brain, are necessarily affected by pathological actions in that organ. The abnormal condition thus produced may exert an astonishing influence on the conduct, changing the peaceable and retiring individual into a demon of fury, or at least turning him from the calm and quiet of his lawful and innocent occupation, into a career of shameless dissipation and debauchery, while the intellectual perceptions seem to have lost none of their ordinary acuteness and vigor. The existence of this form of insanity is now too well known to be questioned, though it may be called by some other name than moral insanity. In this, the most deplorable condition to which a human being can be reduced, where the wretched patient finds

himself urged, perhaps, to the commission of every outrage, and though perfectly conscious of what he is doing, unable to offer the slightest resistance to the overwhelming power impelling him onward (i. e., insanity of the will), the responsibility is to be considered as not affected, because no delusion is present to disturb and distort the mental vision."

Philip Pinel, a celebrated Frenchman in charge of the Bicêtre in Paris, at the beginning of the present century, is said to have been the first to assert moral mania, which he describes in this language: "That there were many instances, who betrayed no lesion whatever of the understanding, but were under the dominion of instincts and abstract fury, as if the affective faculties alone had sustained injury," which he calls "morosing mania." Pritchard, an Englishman, was the first, in 1840, to support Pinel, and he is credited with sustaining the theory of moral mania, at that the will as the moral sense may be insane, even when the intellect is perfectly sane. He declares that persons laboring under this form of insanity may be capable of reasoning and of supporting an argument on any subject within their sphere of knowledge that may be presented to them, and further, that they often display great ingenuity in giving reasons for their eccentric conduct and in accounting for and justifying the state of moral feeling under which they appear to exist. The followers of Pritchard maintain this theory still more explicitly, claiming moral insanity to be a disease of the moral sense, and the only symptoms manifesting this type to be depravity of an unusual or exceptional species.

For illustration, I quote the following case, which is cited to sustain their theory, as related by Pinel, and contained in Bay's work (p. 224): "An only son of a weak and indulgent mother was encouraged in the gratification of every caprice and passion of which an untutored and violent temper was susceptible. The impetuosity of his disposition increased with his years. The money with which he was lavishly supplied removed every obstacle to the indulgence of his wild desire. Every instance of opposition or resistance roused him to acts of fury. He assailed his adversaries with the animosity of a savage, sought to reign by force, and was perpetually embroiled in disputes and quarrels. If a dog, a horse, or any other animal offended him, he instantly put it to death. If ever he went to a *bal* or any other public meeting he

was sure to excite such tumults as perturbed his social and political opinions, and he generally left the scene with a bloody nose. This wayward youth, however, when unmoved by passions, possessed a perfectly sound judgment. When he became of age he succeeded to the possession of an extensive domain. He proved himself fully competent to the management of his estate, as well as to the discharge of his relative duties, and he ever distinguished himself by acts of beneficence and compassion. Wounds, law-suits, and pecuniary compensations were generally the consequence of his unhappy propensity to quarrel. But an act of nationality put an end to his career of violence. Struggled with a woman, who had used offensive language to him, he precipitated her into a well. Prosecution was commenced against him, and on the deposition of a great many witnesses, who gave evidence to his furious deportment, he was condemned to perpetual confinement in the Bicêtre.¹

The school of medical teachers cited above hold that the reason is perfectly right and completely conscious, and declares it to be the moral sense, the affective faculty, the will that is morose. Another school considers the law as applied to partial insanity, or monomania, and assert with Maigieley, Orlézanx, Baskell, and Hamilton, that when a person is a lunatic he is a lunatic to his finger's ends. Orlézanx, in his argument against the *monomania* (page 29), says the mind is not formed of compartments, each treated by a separate faculty, and each surrounded by an impassable wall, but on the contrary, it is unitary in principle, and cannot therefore be divided exclusively into parts. Emotional insanity, pathetic insanity, affective insanity, moral insanity, are expressions used by these authors synonymously, and signify insanity of the will. According to them a person's will may be insane, while at the same time his reason may be sane, so that one having this form of insanity may, deliberately plan, select the means, and execute a murder,—impelled to do so by force of an insane will, though his reason is perfectly sane and he knows and reprobates the deed as wrong.

Hammond says in support of this theory (page 31): "In certain instances, notably in hysteria and insanity, the inability to exert the power of the will is a prominent feature." In the latter condition the will is often exercised against the desires, and the whole system of thought of the individual producing what is known as

"moral impulses." In these cases the will as it were, breaks loose from the intellect and causes the perpetration of acts of immorality or violence. The question then is: Can a man's intellect be perfectly sane while his will is at the same time insane? It may be here stated that it is not physically possible for a person's will to be insane while his intellect is really sane, when we call to mind the manner in which the intellect and will depend on the senses and the imagination for the presentation of all the objects of thought and idea. To know the nature of an end, to correctly judge its moral character, to rightly select the means and then to accomplish that end as the work or object intended, precisely constitutes that operation of the healthy mind over which man's reason has empire or free voluntary control. But when the senses or the imagination present defective images to the intellect, the reason and its rational appetite, the will, must be insane, for the will is reason's faculty of apposition, or the power of desiring and choosing. Reason and will are not, then, separate from each other, but intrinsically constitute one principle, which is capable of knowing, judging, and choosing.

Going further, we find that the mind is divided in psychology into three functions: cognition or feeling, thought or intellect, and will or volition. Cognition or feeling is the first function of the mind; this necessarily arouses thought or intellect into action, and feeling, guided by thought, directs the will to the particular object. If feeling alone excited the will, without the intervention of intellect to direct it, it would strike out blindly into mere space. Thought, therefore, is necessarily involved in every volitional act. Is there, then, such a faculty in man as the moral sense independent of the intellect? or, can such a faculty exist? There is such an expression as good sense, which is allowable.

Prof. Bain's ideas on the formation of conscience or morals in man will serve to elucidate this question. "I have," he says, "given it as my deliberate opinion that authority or punishment is the commencement of that state of mind recognized under the various names of conscience, moral sense, the sentiment obligation. The major part of every community adopts certain rules of conduct necessary for the common preservation, or ministering to the common well-being. They find it are merely their interest, but the very condition of their existence, to observe a number of maxims of individual restraint, and of respect to one another's feelings

on such points as person, property, and good name. Obedience must be spontaneous upon the part of a large number of those whose influence preponderates in the society; as regards the rest, compulsion must be brought to bear. Every one not of himself disposed to follow the rules prescribed by the community is subjected to some application of pain, to supply the absence of other motives. It is this familiarity with regime of compulsion and of suffering constantly increasing until resistance is overcome that implants in the infant and youthful mind the germs of the sense of obligation. I know of no fact that would prove the existence of any such sentiment in the primitive cast of our mental constitution. An artificial system of controlling the actions, accompanied with pain imposed by persons about us,—their actions and the circumstances attending them make a deep and characteristic impression. We have a peculiar notion attaching to them, and to the individual persons the author of the attendant pains. A strong ideal avoidance, not unminged, perhaps, with the perturbation of fear, is generated towards what is thus forbidden by penalties, rising with transgression. The feeling drawn out towards those who administer the pain is also of the nature of dread; we term it usually the feeling of authority. From first to last this is the essential and defining quality of the conscience, although mixed up with other ingredients. As duty is circumscribed by punishment, so the sense of obligation has no other universal property except the ideal and actual avoidance of conduct prohibited by penalties. This discipline indoctrinates the newly introduced member of society with the sentiment of the forbidden, which by-and-by takes root and expands into the sentiment of moral disapprobation. He thus joins with the other members of the community in imposing and enforcing the prohibitions that have been stamped and branded in the course of his own education. Duty, then, may be said to have two prime supports in the more self-regarding parts of our nature—the sense of the common preservation and well-being operating upon a preponderating majority, and the sense of punishment brought to bear upon individuals not sufficiently prospected by the other sentiment. Order being once established in a society, i. e., the practice of obedience being habitual to the mass of the community, it is only necessary to apply a disciplinary process to the young to prepare them for the same acquiescence in the public morality. The imposition of penalties

begets at once the sense and avoidance of the forbidden and the awe of authority, and this, as a general rule, is retained through life as the basis of the individual conscience, the foremost motive to abstain from actions designated as wrong."

If Prof. Bain's account of the creation of the moral sense is correct, which I believe it is the main to be, as it gives man free will and memory, formed entirely by the intellect, and man as a rational being has but one superior mental power, namely, reason endowed with three faculties: intellect, will, and memory, not separated from each other, but constituting one principle, capable of knowing, feeling, and choosing.

Wharton and Stille in article 534, illustrate this principle: A man, for instance, is assailed by another; he believes his life to be in danger; feeling is the first function of the mind here addressed; but this necessarily involves thought. Is the assault intentional? Was it designed? Can I infer, judging from former assaults, or from what I have observed or heard that it is aimed at life? Can it be repelled in no other way than by killing the assailant? Passing inquiries such as these, feeling, guided by thought, directs the will to the particular object, and the killing is proper. Will, therefore, is incapable of any action until reason proposes it. The right and wrong of the lawyer, the appreciable intellectual disorder of the physician can then only be discovered in a faculty which is capable of knowledge, and that faculty is the intellect. Therefore there can be no insane mental or bodily action in man, which does not spring from the lost use of right reason through a diseased state of imagination, either in regard to one or more objects.

It may happen, and doubtless does happen, that acts of violence may be committed against the will and in spite of reason, when there is a diseased and sickly nervous system, and the muscles will not obey the will, as in chorea. Thus, a patient may dash his head against a rock because he has no control over the muscles of his body. So in stoxis, one may, against his reason and will, pull the trigger of a pistol and deprive his friend of his life. So it is easy to conceive how certain bodily passions and emotions, if indulged too freely, become what is commonly called second nature; that is to say, oft repeated they tend to pass out of the domain of willful choice to that of automatic action. Shake-

spoken forcibly expresses this idea in Hamlet's advice to his mother:

"Refrain to night,
And that shall lend a kind of easiness to the next absence;
The next more easy, for use almost can change the stamp of nature."

Hence we must discriminate between intellectual or volitional action, and organic or nerve action.

Man has two appetites, the intellectual or volitional action, and organic or *animal*. Animals promptly obey the predominant motive, but man, who differs from the brute, in being able to avail himself of surrounding phenomena, of profiting largely by experience, and advancing through failure to success, through pain to pleasure, can by his volition choose the stronger or weaker motive, or can freely refuse to choose either. To the ignorant and vicious, choice is easy, in the wise and virtuous it is difficult; for the true idea of choice is the swaying of the scales, not the kicking of the beam by one of the scales. Therefore, if a man is tempted, struggle, attention, and resistance in his case is the sign of humanity and of healthy choice. While yielding and the want of attention, struggle and resistance is the sign of vice, and if oft repeated becomes what is called second nature, that is, it has passed from voluntary action to automatic action. Pope in his "Essay on Man," beautifully expresses this idea as follows:—

"Vice is a monster of so frightful mien,
As to be hated needs but to be seen;
Yet seen too oft, familiar with his face,
We first endure, then pity, then embrace."

Those departed individuals, who by force of passion or impulse are on the brink of committing some forbidden act, are swayed by two conflicting motives, passion and fear. Fear in such cases is the only salutary check to passion, as the state in order to protect society must punish passion, no matter how irresistible it may appear. If it fails to do so it creates the passion it represses. As there is no anger, however irresistible it may appear, that could be readily restrained, if the individual knew he would receive blow for blow. Therefore, a man of sane reason is always responsible for the government of his passions and evil inclinations, as the will cannot be deprived of its liberty of choice, except by depriving reason from its normal rule. And for this reason repeated crime is one who gives no other signs of mental disease

is no proof of mental insanity, but in truth only a proof of moral depravity.

It is easy, however, to conceive how under great provocation certain bodily passions and feelings acting with sickly and abnormal violence do, at times, seem to override the reason and will, and cause acts, which may seem impulsive or irresistible: and the law wisely takes this into account as a mitigating element, to lower the grade of punishment; for as there was no deliberate action the reason and will could have no share in the deed. Such an impulsive or emotional action may be only occasional or transitory, as seems to happen in kleptomania, pyromania, erotomania, and dipsomania, or it may produce more or less deterioration of the reason, causing mania and monomania accompanied with delusion of one kind or another, which are, as already stated, the inseparable companions of insane mental action. In mania there is a sea of troubles, a continuous rabble of delusive ideas crowding themselves upon the intellect of the individual, so one can remain long enough in his possession to form an idea, as they are quickly jostled from their place by hosts of others in rapid succession; such insanity is easily recognized and will therefore be excluded from argument, together with stupidity and imbecility, where the intellect and will are scarcely discernible at all and confine the argument entirely to that form of madness called monomania, which presents the subject of insanity in the most interesting, the most difficult, and at the same time the most important as regards medical jurisprudence.

The subject of this form of madness is able to reason with great accuracy; it is even possible for them to contrive a work, select the means and execute a criminal act, and yet not punishable because of the false sense, impression, and therefore false intellectual belief upon one or more particular class of objects, while the external and internal senses present all other classes of objects as they are really and truly. This disease, during the continuance of which a man is sane with reference to one subject and insane with reference to another, is recognized by symptom, and that symptom is delusion. Understanding delusion as Lord Brougham has defined it to be "The belief of things as realistic which can only exist in the imagination of the patient," such disease has histories and symptoms, by which one may be distinguished from another—*melancholia* has also its characteristic symptom, namely, delusion;

although many assert, on the contrary, that insanity has no test by which it may be recognized, that its presence or absence in a given case is merely a question of fact, only to be decided by the experts and the jury. This is surely a *redoubt of verities*, since no fact can be known, even to the most acute expert, except by means of its own specific criteria.

To thoroughly understand disease, we must know something of what health consists, as an excellent pathology must be preceded by a careful anatomy and physiology, so to rightly know a disease, we must know something of its cause and course; to know the beginning is to know something of the end and middle also. Therefore, in order to know how such a mental parasite as a delusion on one particular class or classes of objects can co-exist, with complete mental health on another class of objects, it is first necessary that we know rightly the true functions of the brain-power, when its action is healthy and normal. We must first remember that the intellect depends entirely on the senses and imagination for the presentation of all the objects of its thoughts and ideas; the office then of the imagination is to reproduce an image before the intellect, of an object previously received by it, from the external senses; so the intellect itself forms all its ideas, no matter how abstract they may be, only by directing its action toward these phantasms external to it. In no other manner can any act be done, or thought thought, or feeling felt which is not mirrored before the intellect, externally by the imagination.

One who reflects attentively, as I have done, while writing this essay, on what takes place in his own mind when thinking, will observe this fact for himself, and will notice that we cannot ever think our own thoughts, and make them objects of our intellect, except as the imagination presents them images in a material form, as regards size, color, extension, and other material things. So in delusion of simple monomania, the intellectual powers seem unaffected, except so far as the single delusion is concerned; the individual seems to reason as naturally as he would do in a state of normal health. Hence it would seem to be a disease of the cognitive faculty, or of the nerve which conveys the impression to the brain, as a delusion is always a belief, and a belief is only a feeling of certitude, which can only accompany some of our cognitions. Were not thus the case, the error which is entertained in a delusion would be dissolved by proof. Then Eusebe very forcibly de-

scribes monomania, when he says their intellect is not defective, or judgment impaired, but a delusive image, the inseparable comparison of real insanity is thrust upon the subjugated intellect of the patient, incapable of resistance, because unconscious of attack.

In monomania the intellect's actual condition may be represented by taking one of the special senses, the eye for example, and confining it so that it can see no object whatever, unless the shadow of an object be presented to it, as reflected from a patterned or cracked mirror; the image of that object thus reflected would not be the true image, but would be distorted by every flaw in the mirror. So in like manner, there must be a false image of the object presented to the intellect, unable to discover the deception, since it had no means to compare the false image with the real.

To sum up the entire contents of the essay.

First, in the sane or insane mind the intellect depends entirely upon the senses and the imagination for the presentation of all the objects of its thoughts and ideas.

Second, that there are two conditions of the brain which will produce insanity, first, organic changes in that organ which are permanent and readily recognized; second, changes in the nutrition of the brain, which may be only temporary and produce insane mental action.

Third, the symptom or test of insane mental action is delusion.

Fourth, there is no mood or other form of insanity independent of the intellect, except there is a lack of brain matter, and here the intellect and will is scarcely discernible at all.

Fifth, there can be no insanity of the will when the intellect is sane.

Sixth, crime, no matter how often repeated is not of itself a symptom of insanity but rather of depravity.

Seventh, passion or impulse, however irresistible it may appear, is not insanity, and therefore should not excuse a person from punishment.

Eighth, there is such a disease as monomania, during the existence of which the patient may be insane on one or more subjects, and perfectly sane on all other subjects.

In conclusion, I would remark that from the earliest period in the history of medicine mental diseases have been recognized, classified, and treated as a subject worthy of the greatest attention

that science or humanity could dictate. Hippocrates, Celsus, and Galen wrote on insanity and classified it under these three heads — mania, melancholia, and dementia, — and in modern times, the great problem of mental insanity is a fascinating subject for investigation by the greatest minds in our profession, men whose general professional work will last as long as the history of medicine shall be known. I have space only to mention a few. Pinel, Esquirol, Casper, Corbally, Brodie, Bain, Ray, Maudsley, and Hammond. Although all positive knowledge of insanity has been derived from the labors of the physician, yet statutes were formed and principles of law laid down regarding the punishment of insane criminals long before they had obtained any accurate notions respecting the malady, and, as we have seen, error and injustice have been done under the sacred name of law. To the medical profession great praise must be given for the discoveries they have made, the services rendered, and the successful treatment of mental diseases, and also for the proofs furnished by them of the different lesions in the brain of the insane. Other discoveries which the eye cannot penetrate or the future foresee, are yet rendered possible. Therefore, whether old or young, our duty is clearly to investigate. The discoveries of the past encourage us to go on. Michael Servetus pointed the way to William Harvey, who continued the work of discovering the extent of the circulation which was truthfully established by Marcello Malpighi in 1661, four years after Harvey's death. The crude investigation of Auenburger, though now forgotten, disclosed a path wherein Laënnec became immortalized, in his revolution of diagnosis by percussion and auscultation. The unconscious observation of village peasants, paved the way to Jenner's discovery of vaccination, one of the greatest blessings ever bestowed upon suffering humanity. So the philosopher Kepler has actually discovered that the retina of the eye forms perfect images of the objects seen by it. This indeed does seem to point the way, that it is possible for the scientific investigator, with the aid of the modern improvements in instruments, to yet be able to make the discovery of the material phantasm, primarily received by the senses at a nerve center in the brain. Away, then, with sloth and indifference, a future greatness beckons us on — as may be seen, an ancestry full of imperishable examples tells us what to do. It pleads with us to strive and make the discovery which I believe

it be possible. Such a discoverer would stand forever preeminent in our profession, as he would forever elucidate the sane or insane mental action. Therefore in finishing, I cannot refrain from giving expression to hopes; they are these, that he may be a member of the profession, of our country, of our state, and even of our own city.

ESSAY.

ANGINA PECTORIS.

By S. W. TENAKA, M.D., CHICAGO.

In his "Study of Medicine," John Maenn Gould says: "It is singular that there is no description which will fairly apply to this disease, which he calls *Sternalgia*, in any of the writings of the Greek, Roman, or Arabian authors that have descended to us," and he infers that it was not in existence in their day. He, with every author, I believe, who has written since, gives to Dr. Hildenbrand the credit of having first accurately described it, in the "Transactions of the College of Physicians of London," about one hundred and fifty years ago.

Parry, Cullen, Darwin, and McBride, a few years later, made investigations as to its nature and causes, and so thoroughly did the work, that to this day very little more has been learned as to the pathology of this fearful disease. Hildenbrand calls it "a disorder of the breast." "Those who are afflicted with it, are seized whilst they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away, if it were to increase or continue." Sir Thomas Watson, that most fascinating of medical lecturers, of whom it may well be said, "*nil quod trix non oritur*," says, "you will observe that the distress comes in paroxysms, and the patient at first has intervals of apparent health. The paroxysms are especially liable to come on when the patient is walking, and above all when he is ascending—going up a hill. He is seized all at once with a painful sensation, indescribable, but always referred to the heart or its neighborhood. Sometimes the sensation is spoken of as being a spasm, but

it also carries with it the impression that any continuance of the exertion, the stirring another step, would prove fatal, yet the patient is not out of breath. It is not dyspnea that oppresses him, for he can breathe freely and easily. He lays hold of any neighboring object for support. His face is pale and haggard, and you would suppose from his appearance that he was actually at the point of death. But in the early stages of the disease the pang soon subsides—the distress is over—and the patient is himself again. After the lapse of some time, however, the anguish does not so instantaneously cease, nor does it always require some bodily exertion to bring it on. It will occur when the patient is quiet, even in bed. He feels as if the action of the heart was arrested, and he is obliged to rise up every night, perhaps, for many weeks together."

It is a disease of advanced life. Of eighty-four cases recorded by Dr. Forbes, seventy-two were above fifty years of age, and twelve under fifty. Only one is eleven years of age. Of the eighty-four cases forty-nine died—almost all of them suddenly—and of the forty-nine only two were women. Charles Sumner and Wendell Phillips were its victims. John Hunter died of it—the fatal seizure brought on by a fit of anger. General Gordon, lately sacrificed to British inefficiency in Egypt, is said to have had more than a hundred attacks of it, and to have often worked for death as a relief. On the other hand, a person may succumb to the first attack.

In the evening of February 2, 1884, I was summoned to a man, forty-eight years of age, who had been at work during the day, had returned from a walk of half a mile to his boarding-place, and seated himself with a cigar to read his paper. He had for a few months complained to his shopmates of sudden and severe attacks of pain in the region of the heart, but had not taken medical advice. I reached the house to find that the man had died in agony, fifteen minutes after the attack. From the description given by intelligent persons who were present, I had no doubt that the disease which so suddenly terminated his life was "Angina Pectoris." The pain of angina is of the severest character, extending from the stomach to the spine, and is accompanied while it lasts with a feeling of approaching death."

Whether it is due, as Horderden supposed, to a spasm of the heart, to ossification of the coronary arteries, as Parry and others claim,

whether it is an *Laennec* callus or pure neuralgia; whether the paroxysms are caused by dilatation of the heart, or as *Stokes* says, "the disease is but the occurrence in a defined manner of some of the symptoms connected with a weakened heart," is not for me to decide. *Ferd. Leyden* of Berlin, an abstract of whose views is given by Dr. N. S. Davis, in the *Journal of Am. Med. Association*, for January 16, 1885, is of the opinion that "the disease most frequently accompanies lesions of the heart-muscle due to atherosclerosis of the coronary arteries"—and distinguishes three classes of cases. 1st. "The course of the disease is acute, and results in sudden death. After certain prodromata, such as vague anginous symptoms, dyspnea, dizziness, etc., the patient faints, is seized with a sudden, intense angina pectoris, and presenting signs of cardiac failure, such as *oedema pulmonum*, expires. The autopsy reveals, aside from a possible rupture of the heart, areas of fibrous induration and recent hemorrhagic softening. In the second class, the course of the disease is sub-acute, and is witnessed most often in men about sixty years of age. Symptoms of cardiac disturbance, which may have obtained, at length increase in severity, attacks of angina become more frequent and intense, cough and sleep are disturbed, and finally, after weeks or months of cardiac asthma and angina, which latter, if it results at intervals, does so only to make way for a sensation of restless anxiety, the sufferer succumbs. The dilated heart is found to be the seat of fibrous degeneration and thrombosis. In the third class, the progress of the disease is chronic, and is associated with advanced age."

The question which most interests us to-day is the practical one, what shall we do to ward off this tendency to death? The treatment of this formidable disease has been as varied as the theories concerning its cause. Good relief is antispasmodic and diaphoretic—with opium intermixed with other anodyne, or other diffusible antispasmodics in the intervals, regulating the bowels, looking out for the predisposing cause, and giving opium or belladonna at night, to guard against recurrence. Arsenic in small doses, or Prussic acid, he says, might be beneficial yet without a high degree of skill and circumspection, the remedy might prove far worse than the disease itself," a remark which in our day is worthy of being kept in mind.

Good, and also McFriede and Darwin, speak highly of incision in each thigh. Keck's incision, Good says, should be large enough to

contain two pens which should be made preferably of magnesium bark. Cordials, stimulants, and antispasmodics have found a place in treatment, and have doubtless been useful from the fact that they relieve largely the discomfort which often aggravates the symptoms of cardiac disease.

On the 1st of August, 1883, I was called in haste to a man, fifty-three years of age, a machinist by trade, weight about two hundred and thirty pounds, strong, a good eater, not strictly temperate, using stimulants freely at intervals, but not habitually. Found him suffering intensely. Renewed attacks of the disease Oct. 15th, Nov. 20, and December 15th, frightfully severe. Treatment, strong chloroform ether, aromatic spirits of ammonia, chloroform, and hypodermic injections of morphia, which gave a few hours of sleep, followed by extreme weakness. At the second attack I used the nitrite of amyl without effect, probably in consequence of the medicine being not fresh. At this time I learned from the family that he had taken the same remedy in Milwaukee where he lived, and had the first attack in 1878.

At this time the disease continued four or five days at each attack, the paroxysms lasting from one hour to one and a half. They came on during the night, while in bed. Used nitrite of amyl and other remedies, but nothing did permanent good. His next attack was in February, 1884. It began to look as if the disease was getting the better of us. About that time, having read with great interest the statement of a case very similar to mine, by Dr. Matthew Hay of the University of Edinburgh, which he had treated with nitrite of sodium, with great satisfaction, I gave him a solution containing two and a half grains to the teaspoonful, to be taken before rising in the morning, after dinner, and at bed time, in doses of one or two teaspoonfuls, with instructions to repeat the dose at any time when he felt indications of an attack.

He has faithfully carried out the instructions for more than a year,—obtains relief in from two to five minutes, and the relief is more perfect and lasting than that obtained from the nitrite of amyl, without the flushing of the face, throbbing and headache produced by the latter. He walks without difficulty to his place of business—walks up a long flight of stairs easily,—if he has any fears of an attack, he carries the medicine with him, and takes it in the street or wherever he happens to be—weighs 158 pounds, sleeps well, eats well, and says the only disagreeable thing about

it is that some hours after taking it he experiences quantities of gas, not particularly pleasant, but thinks that of trifling consequence, in comparison with the relief afforded. March 3, 1883, he had a slight attack of angina, which yielded readily to treatment, and again on the 24th, another more severe, aggravated by a cold, but passing off in a few hours. To my inquiring a few days since what he thought of the remedy, the reply was, "I should have been a dead man before this without it."

If then it be true that nitrite of sodium will prevent or relieve the attack of angina pectoris, we have a remedy almost tasteless, cheap, easily procurable, easily kept, *producing* none of the disagreeable effects of nitroglycerine or nitrite of amyl.

Stillé says, "The symptoms following a dose of two drops of a one per cent. solution of nitro-glycerine are said to be slight flushing of the face, a rise in the pulse-rate, subsequent intense pallor, and a feeling of faintness for a quarter of an hour."

I have given nitrite of amyl for headache to patients who have absolutely refused to take it a second time, preferring the headache to the flushed face, giddiness, flushing of the heart, and the feeling of a head swollen almost to bursting. The nitrite of sodium also wards off an attack for a much longer period than nitrite of amyl, and somewhat longer than nitro-glycerine.

Dr. Hay, in May, 1883, wrote a second article, saying that he has in other cases obtained confirmation of the value of the nitrite of sodium in this disease. He also carefully tested the therapeutic value of other nitrites, ethereal and metallic, and of compounds of amyl other than the nitrite, determining entirely the nitrite of sodium, while using the others. Later still Dr. Coburn, House Physician to the Wolverhampton and Staffordshire Hospital, in the Lancet, gives notes of case of an out-patient, forty-eight years old, who had for eight months previously severe attacks of angina pectoris. Came to the hospital August 29, 1883. For six years his general condition was greatly improved by the use of digitalis, iron, ether, etc., but the anginal attacks were not in the slightest degree relieved. October 15th he was ordered three grain doses of nitrite of sodium, a dose to be taken about ten minutes before doing anything likely to bring on an attack. On the 18th the following note was made: "Since the 15th has taken four or five doses daily, the attacks occur as usual, but are very much shorter and less severe. Now walks freely from the inner boundary

in twenty minutes; formerly it took three-quarters of an hour at times considerably over the hour. Increased the dose to five grains three times a day. Note, November 7th. "Has been confined to the bed with an attack of acute bronchitis. Is still taking five grain doses, and finds great relief from its use."

As to preventive measures, the first duty is to improve the heart. For this purpose, "arsenic is invaluable," taken in the form of Fowler's Solution, three to five minims twice a day after food, sometimes increasing the dose for a few days. It acts as a special tonic to the heart. With this we should use iron, strychnine, and digitalis, as indicated, taking mild but nutritious food, and carefully avoiding stimulants and excitement of every kind, in the impressive language of Scripture, "keeping the heart with all diligence, for out of it are the issues of life."

ESSAY,

A FEW SUGGESTIONS ON THE THERAPEUTICAL USES OF CAPSICUM.

By A. T. DOUGLAS, M.D., NEW LONDON.

Capsicum, though long used as a condiment, has never obtained very much popularity as a medicine, notwithstanding the recognition of its physiological and therapeutical properties in various works on Materia Medica and Therapeutics, most of which are briefly summarized in the following quotation:—"A powerful stimulant, without narcotic effects, useful in dyspepsia and atonic gout; a good stimulant in palsy and certain lethargic affections, and in low forms of fever, and locally in dyphtheria and scarlat fever." Within the last twenty years it has proved an efficient remedy, either alone, or in combination with other medicines, in several serious, and sometimes intractable diseases.

"Copland regards it as almost a specific in diarrhoea arising from gastric matters in the intestines, and especially when occasioned by fish."

In the *Boston Journal of Chemistry and Pharmacy*, for September, 1853, it is stated that "Matschink considers it to be a specific in hemorrhoids, four cases having been successfully treated without a return of the disease." In the *American Journal of Medical Sciences*, for July, 1856 (page 243) is the following extract from the *Dallas Medical Press* and *Observer*, April 18, 1856. It refers to a case of delirium tremens treated by Dr. Lyons with capsicum.—"A drunken dose made into a bolus was taken. In less than one hour, the patient fell into a quiet sleep, and some three or four hours subsequently awoke perfectly calm, conscious, and convalescent."

"The results obtained by Dr. Lyons in the use of this drug,

fully bear on the experience acquired on a far larger scale of administration in the West Indies and in the Melville hospital, not less than from seventy to eighty cases are reported to have been treated successfully by the sole use of this drug in single or repeated doses ranging from one scruple upwards.

"No gastric disturbance, or other unpleasant symptom has been at any time noticed.

"As a stimulant of great and unobscured efficiency, Dr. Lyons considers that its action may be explained by the direct influence it exerts upon the gastric expansion of the vasa, and so immediately upon the cerebro-spinal centers. For general employment it cannot be doubted that, as pointed out by Dr. Lyons, the use of capsicum offers many advantages over other agents or digitalis."

The *American Journal of Medical Science*, January, 1865 (p. 245), also quotes from the *Medical Press and Circular* as follows: "As capsicum belongs to the great order of the rubaceous, Dr. Lyons suggests the possibility of its containing a narcotic principle similar to *nicotiana glauca*." In the *American Journal of Medical Science*, January, 1866 (p. 253), it is stated that: "Further experience has confirmed Dr. Lyons in his opinion of the value of capsicum in delirium tremens, more especially in those cases in which opium has been tried and has failed to produce sleep."

My attention was first directed to the usefulness of capsicum by the late Dr. N. S. Perkins of New London. Just before leaving for the seat of war, in 1861, this doctor advised me rather significantly to encourage the soldiers to use capsicum freely as a condiment, remarking that it was "the proper stimulant in hot climates." I adopted his suggestion, and found no difficulty in persuading the men to try it.

While in camp at Annapolis, Md., in the winter of 1861, we found an infusion of capsicum, pepper-mint, and flaxseed, the most efficient remedy for acute catarrh and coughs, which for more than a month was the most troublesome malady with which we had to contend. We also used it in the treatment of hemorrhoids in combination with blisters of potassa and sulphur, and also during the following summer (at New Bern, N. C.) capsicum was used in combination with quina, blennia, and ipecacuanha, in the treatment of interia, which was very common, and with good results in every case. It is in private practice, however, that I

have had the most experience in the use of this remedy. For at least twelve years prior to 1878, many cases of severe and protracted intermittent fevers, some of them of a subgigantic type, came under my observation.

My treatment of these cases was first, a brisk alternative cathartic, either compound cathartic pills, or calomel and jalap; and followed by a saline draught. After the action of the purge a powder was given twice daily, composed of quina five grains, capsicum one-half to one grain, and ipecacuanha one-quarter grain. The saline draught was generally repeated once or twice a week. In a few very obstinate cases, double the amount of quina was used, but never more than two doses a day. Many of these cases had been taking quina in two, three, and five grain doses every four hours; some, five to ten grains three times daily, with only a mitigation of the paroxysms; these cases generally yielded promptly to the treatment above mentioned. During the winter of 1872-3, some fifteen or more cases of well-marked cerebro-spinal meningitis occurred in the town where I was then practicing medicine, but none of them so severe, or so rapidly fatal as have been recorded in other places. About two-thirds of our cases recovered. The eldest patient was over thirty years old, and was under homœopathic treatment till a few hours before death. One was under two years, and all the others between five and twenty years of age. The treatment most efficient in this epidemic (if it may be so called) was as follows:—Calomel two to five grains, capsicum one to five grains, ipecac. one-half to one grain, every four hours; and a blister two inches wide over the spine and extending from the occiput to the sacrum. After improvement commenced, which was generally by the third day if at all, iodide of potassium was substituted for the calomel, and later on quina was added to the treatment, and the capsicum was continued till convalescence was assured. Pyæmia did not occur in a single instance, and it is also worthy of remark that in no case was the capsicum objected to by any of the patients, there appearing to be complete paralysis of taste, a condition that has been mentioned by some authors as a pathognomonic symptom of cerebro-spinal meningitis.

As a further evidence of the correctness of our diagnosis, the only autopsy which we had the opportunity of making, revealed not only meningeal congestion, but patches of partially organized lymph on both brain and spinal cord. The origin treatment of

this disease, so strongly recommended by many, I regard as extremely hampering.

Nervo-hypertonic headache, especially that which occurs in females at the menses, is relieved by capicum; one-half to one teaspoonful of the tincture usually affording relief in ten or fifteen minutes. It may be repeated every hour or half-hour, but the third dose is seldom required.

The headache returns, however, at the next monthly period, but it is generally as promptly relieved by the same dose of the drug.

My experience in the use of this remedy has been quite limited, but at the same time so satisfactory, in the treatment of intermittent fever, indigestion and functional hepatic derangements; in cerebro-spinal meningitis, and the troublesome headache attending the menses, that I have "great expectations" of its becoming one of the most popular articles of the *Materia Medica*; and the hope that its use by others may corroborate my observations, and thus hasten the realization of these expectations is my only apology for offering this imperfect and hastily-prepared paper.

ESSAY.

THE TREATMENT OF STRICTURE OF THE URETHRA.

By FRANK H. WHITTENSON, M.D., NEW HAVEN.

So much has been said and written in recent years in regard to the treatment of stricture of the urethra, that one who has not had an opportunity to make a special study of the subject must often be embarrassed in selecting a plan of treatment adapted to any particular case. And yet nearly every general practitioner has several of these cases come to him each year for treatment. Their frequent appearance in my own consulting-room has compelled me to devote considerable time to the study of the subject.

It is my purpose in this paper to present some observations, from the standpoint of the practical surgeon, upon those methods of treatment which have proved of most value in my own practice, and which seem to me likely to give the best results in the hands of the general practitioner.

On account of their comparative rarity, and in order to avoid extending the length of the paper unnecessarily, all consideration of traumatic strictures will be omitted, and the discussion will be limited to those gradually forming strictures, which are the result of a chronic inflammation of the urethral mucous membrane.

The most constant symptom of stricture is gleet. Conversely gleet ordinarily depends upon stricture, and usually stricture of large calibre. A man cannot have a urethral discharge lasting over six weeks without damaging his urethra. After a gonorrhoea has lasted six weeks, the inflammatory process is becoming localized, and a thick, crusting of the peri-urethral tissue is almost inevitable. At the same time, I do not consider that every man who presents himself for treatment with chronic urethritis and a moderate contraction of the

urethra, has an organic structure. It may be merely a thickening, which if allowed to go on, will develop into an organic structure.

Another very constant symptom of stricture, and one which is generally present in the forming stage, is the dribbling of urine after the act of micturition is apparently completed. This is due to a loss of the normal elasticity of the urethra at the point where the deposition of plastic material is taking place, and the inability of the compressor urethra muscle to overcome the abnormal resistance; a portion of the urine is consequently retained behind the coarctation, and subsequently escapes drop by drop.

Only old strictures, as a rule, cause symptoms in the absence of a gleet discharge. Such strictures may cause a variety of symptoms. Frequent micturition, if present during the day, should lead the surgeon to suspect stricture. He should also enquire if the stream is small, forked, or twisted, if the urine falls drop by drop, if there has been retention, and finally if the patient has had gonorrhoea. These cases are generally strictures of small calibre which may easily be detected.

I have known an old tight stricture, of ten or fifteen years duration, to have been treated as chronic inflammation of the bladder with bicarb. alkalies and suppositories, by a physician of the highest reputation. When a patient has chronic cystitis, it is always well to consider what causes it. Enquire in regard to urinary symptoms, and examine with a suitable instrument. It may be arrested in the deep urethra. Such cases are not uncommon.

In strictures of large calibre, it is a nice point to tell where coarctation is taking place. It is impossible to do this with a steel sound, as most men try to do. This is why so many men fail to find a stricture; why, consequently, so many strictures go untreated; and why, furthermore, it is so common for a man, who presents himself for treatment with a gleet, to exclaim, after a stricture is detected, "Why, Dr. So-and-so told me, a couple of weeks ago, that I had no stricture."

In order to detect a stricture of large calibre, it is necessary to use either a urethrotome or a set of metallic or flexible hollow bougies. I prefer the bougie. My own experience, moreover, has been that a moderate degree of coarctation is more readily detected by the flexible instruments, than by the shovel-ended bougie of Oua. Of course it is not difficult to detect a stricture of small calibre with any instrument. It is, however, difficult for a man who has not

used both, to realize what a difference it makes whether one uses a steel sound or a bulbous bougie for the detection of a stricture of large calibre. Repeatedly men have come to me with chronic gonorrhoea or gleet, and have told me that they have been examined by a surgeon, and assured that they had no stricture. I have then tried a flexible bulbous bougie, and seen it arrested as few less than two inches from the meatus. Then I have tried a solid, blunt instrument, and passed it right through the stricture without the least resistance. But it is these very strictures of large calibre which it is important to detect and cure before they become organized.

When the patient comes to you, in whose urethra you suspect the existence of a stricture, you first measure the circumference of the penis, then, bearing in mind the ratio which this bears to the calibre of the normal urethra, you select a bougie of such a size as the measurement shows that the meatus ought to admit. Having well oiled the instrument, putting the penis gently on the stretch, you carefully pass the bougie along the urethra. If it enters the bladder without encountering any resistance, there is no stricture. If a stricture exists, the bougie will be arrested. Then take a smaller instrument and repeat the manoeuvre, and so continue until you find one which will pass the point of obstruction. This shows the calibre of the stricture. Then recognizing the well-known fact that, where there are several strictures, the nearer the meatus the larger the calibre of the stricture, the examination is continued in the search for other strictures, a smaller and smaller instrument being used in order to detect the narrowings nearer and nearer the bladder.

Having determined the existence and location of one or more strictures, do no more at this sitting. Warn the patient that the next act of micturition will probably be attended with some pain. Then, having given him such directions in regard to his hygiene, and having prescribed such constitutional treatment as his individual case requires, direct him to return in three or four days for further treatment.

Every case of stricture should be treated as a whole. The physical condition of the patient should be studied. Most of the patients are run down, and in an aseptic condition, due partly to the local irritation and suppuration, and partly to mental worry. Such patients need iron and general tonics.

Like every other inflamed organ, the urethra, which is the seat of stricture, should be placed at rest as far as possible. All sources of irritation should be removed. The urine should be rendered as unirritating as possible. All articles of food which have a tendency to cause crystals of uric acid to be present in the urine should be avoided. The diet should therefore be mild and unstimulating, and the amount of nitrogenous food ingested, should, as a rule, be limited. The use of all kinds of alcoholic stimulants, including beer and ale, should generally be stopped. Coffee also should be omitted. Smoking, in my experience, has proved as injurious in some cases as alcohol, and should be forbidden.

In strictures of large calibre with gleet, it is necessary to neutralize the urine with alkalis. The fluid extract of kava-kava I have used a great deal of late, and in cases attended with a gleet discharge, it has proved beneficial. There is a great difference in urethra, some being very irritable. Decades of potassium will do a great deal for these cases. Given in full doses for a few days, it blunts the sensibility of the urethra. A combination of bicarbonate of potassa, kava-kava, and hyoscyamus is often very effective by rendering the urine alkaline, by lessening urethral irritability, and by diminishing the gleet discharge.

Finally, the patient should be warned to be as quiet in word, thought, and action as possible. If a single man, he should abstain absolutely from sexual intercourse. The society of hard women, and lascivious thoughts and conversation should always be avoided. In this way nervous and vascular activity about the genital organs may be greatly diminished.

When the patient returns, if his urethra is not up to the required standard, it must be enlarged. It should be a golden rule to say that all strictures of the urethra must be cut, for you cannot stretch them. This may be done in several ways: some men preferring a bistoury, some scissors, and others a urethrotome constructed especially for the purpose, the best one perhaps being that of Civiale. My own practice is to use the latter. The incision should always be made downwards in the floor of the urethra. In performing this operation, great care should be used to make the opening sufficiently large to admit a ballpoint bougie of a size a little larger than that which our measurement of the penis has shown that the urethra should admit, in order to make allowance for the contraction which takes place in healing: but the operator should

also be cautious not to make the incision unnecessarily large, lest he create an artificial hypospadias. If too large an opening is made, it subjects the patient to the exceeding inconvenience of not being able to pass his water in a compact stream. In some instances where a perhaps too enthusiastic follower of the teachings of Dr. Otis has in the excess of his zeal carried the incision beyond the bounds of nature and of reason, the sufferer has been obliged to sit down upon a vessel or water-closet to urinate. In one or two cases, which have come to my knowledge, such patients have applied to the surgeon with a view of having a plastic operation undertaken for the relief of the deformity resulting from the barbarous mutilation.

The hemorrhage following this operation is sometimes quite abundant, but ordinarily stops spontaneously in a few minutes. If, however, it does not do so, it can generally be arrested by wrapping a little cotton around a probe and applying some tincture of iodine to the cut surface. The hemorrhage having ceased, a piece of lint should be inserted, within the meatus, and allowed to remain until carried away by the stream of urine. This serves the double purpose of preventing union of the cut surfaces, and of tending to prevent recurrence of the hemorrhage.

There are several ways in which the patulous condition of the meatus may be maintained. You may pass in every day a full-sized bulbous bougie, or a conical steel sound, or a so-called fossal sound made especially for this purpose. I am in the habit of employing the latter. Experience has shown me that, if an instrument is not passed in every day, granulations grow so rapidly in this situation that in two days it will be impossible to pass it without subjecting the patient to a great deal of pain, much more than where it is passed every day. It is not generally necessary to confine the patient to the bed, or to the house after this operation. He should bathe the parts twice a day in hot water, and should not walk much for a day or two. In this way it is possible to obviate a tendency to inflammation at the site of the operation, and also in the adjacent parts, as the lymphatic glands. Should the wound in healing show a disposition to become a little sloughy, it is well to dust over the surface with a little iodoform or bismuth.

When the wound of the meatus has healed, which usually occurs in about two weeks, the gleet discharge, for which the patient sought treatment, very often has stopped. If it has not, we again explore

the deeper portion of the urethra, using as before the Bixby's bulbous bougie.

Many strictures are reflex in character, and entirely disappear when the meatus has been enlarged. The necessity of relieving a contracted meatus before attending to a stricture of small caliber in the deep urethra, is illustrated by the following case:

The patient had gleet, and five inches from the meatus, a so-called impassable stricture, through which a filiform bougie could not be passed. He had also a stricture of large caliber in the pendulous urethra, and a small meatus. He could pass only a little water, drop by drop, and I feared retention. I at first attempted to pass a filiform instrument through the stricture, but failed, although a No. 14 American could easily be passed down to it. Each time I saw him I persisted in the attempt as long as I dared, fearing lest inflammatory swelling in the urethra should be excited. In the meanwhile he was kept in bed and received appropriate constitutional treatment. Having made a thorough trial of this plan of treatment, and being unable to reach the bladder, I threw aside the filiform instruments, ignored for the time being the deep stricture, and gave him a meatus which would admit a No. 24 solid. When the meatus had healed, a full-sized, cortical steel was passed down to the face of the stricture, and gentle and continuous pressure was made. This was repeated once in four days. At the third trial the instrument passed immediately into the bladder.

After the meatus has been sufficiently enlarged, should other strictures exist, the question of treatment at once involves a determination of the comparative merits of gradual dilatation and internal urethrotomy. My own preference is for gradual dilatation which I carry out in the following way: Having determined the caliber of the stricture, a sound, of such a size as the bulbous bougie has shown that it will admit, is introduced. If this passes easily, the next size larger, say, if possible, gently passed through the stricture. Inasmuch as strictures are rarely encountered beyond the triangular ligament, it is not necessary to pass a sound beyond this point. By avoiding this, we not only do away with the most distressing part of sounding, but also lessen in no small degree the danger of exciting epididymitis, proctitis, and cystitis. Some surgeons advise that the instrument should be left in the urethra for five minutes or even longer. My own conviction is that when the instrument has passed the strictured point, it has

accomplished all that it can do. I consequently withdraw it at once, believing, as I do, that any instrument in the urethra produces irritation, and that, the longer it is allowed to remain there, the greater is the irritation produced. By the simple process in passing the instrument through the stricture, all the good possible from this plan of treatment is effected. The way in which the use of a sound benefits a stricture dependent upon the organization of plastic material is in no way analogous, as many seem to suppose that it is, to the action of over-distention in relaxing muscular spasm. In view of both of these considerations, straight steel sounds are both useful and convenient. In treating strictures of the urethra, it is a good rule to never employ a steel instrument of smaller size than a No. 9 American, on account of the great danger of making a false passage. Furthermore, whenever in introducing instruments into the urethra blood is drawn, it is time to stop.

In regard to the frequency with which sounds should be introduced into the urethra for the cure of strictures, there is a considerable diversity of practice among surgeons. The older the stricture, the more firmly organized has become the plastic material and in consequence it requires less frequent introduction of instruments. Those cases of stricture, which we will designate as strictures of small calibre, using that term to designate strictures which will not admit a No. 5 bougie, will improve faster by not introducing an instrument more often than once in six, seven, or even eight days. The exact interval appropriate for each individual case can only be learned by observing the effect upon that case of introductions at different intervals. As a rule it is poor surgery to introduce an instrument into an old, firmly organized stricture, more frequently than has been indicated. If a sound is introduced every day or two, it causes inflammation or swelling, and you cannot tell how the dilatation is progressing. In treating strictures of large calibre, which as a rule are not as firmly organized, and in which as a consequence there is not as much vascular reaction, the introduction may be repeated once in four days. Practitioners do not, it seems to me, appreciate the value of gradual dilatation because they do not observe carefully enough the effect of a single introduction of a sound.

At the next visit of the patient, the largest instrument which passed through the stricture easily, is again passed. Then the next

size larger is tried. If this is grasped, or tightly held on, with drawal, no more is to be done at this time. Should it pass easily we again try a still larger one. Usually it will not be possible to use an instrument more than one size larger than that previously used. At each succeeding visit the same plan is followed, of first introducing the instrument which was introduced last at the previous visit. The size of the instrument is thus gradually increased until the full caliber of the urethra has been reached. When this has been attained it is necessary to continue to pass the full-sized instrument at such gradually-increasing intervals as experience shows are not so long as to permit so much contraction, at the point where the stricture existed, as to render the introduction of the instrument at all difficult.

The plan of treatment thus utilized has, in my experience proved uniformly successful. In none of the cases which have fallen under my observation have I had occasion to have recourse to internal urethrotomy, perineal section, or electrolysis. Dilatation I have used only in some half-dozen cases of traumatic stricture, the consideration of which has been purposely excluded from the discussion. I will now state briefly why I do not use one of the other methods rather than gradual dilatation.

Perineal section is undoubtedly indicated in some cases of impossible stricture, particularly when complicated by sinuses. But I have been so fortunate, up to the present time, as not to have met with any case in which I have not been able, by the exercise often of considerable patience, to finally pass the stricture, and eventually to remove the obstruction, and see the sinuses close up.

Electrolysis requires for its performance a variety of expensive apparatus which easily gets out of order, and is hardly practicable except in the hands of an expert in electrical treatment. In the short time since its introduction to the attention of the profession, it has not been sufficiently simplified to be available for the general practitioner. Any case therefore in which it may seem to be indicated, should for the present be sent to the electrologist.

In regard to internal urethrotomy, which has a few earnest advocates, I have but little to say. Its operations upon the urethra the best results, as regards freedom from discomfort and even dangerous complications, will be obtained by him who uses the minimum of violence. Furthermore, it is a rule of practice with us, in the treatment of any surgical lesion, to always select a

method of treatment, which, while its final result is satisfactory, is at the same time absolutely free from danger, in preference to one which is unquestionably attended by no inconsiderable risk. Gradual dilatation, in almost every case, gives favorable results, and may be carried on with perfect safety, and without interfering with the ordinary business of the patient. Internal urethrotomy, on the contrary, always necessitates the confinement of the patient to his bed for several days. It is not unfrequently followed by hemorrhage, suppression of urine, septicæmia, extravasation of urine and perineal abscess. Nor can the fact be overlooked that instances of death following the operation are occasionally reported, and, considering the tendency among medical men to report favorable cases, and to say nothing of unfavorable ones, it is but fair to presume that the actual mortality is much greater than is generally supposed. Moreover, the operation does not effect a complete cure, but the passage of a sound at regular intervals is just as necessary as after treatment by gradual dilatation. Now and then an old, very resistant stricture is met with, which is made worse by attempts at dilatation, or one in which badger symptoms are so urgent a consequence of long continued obstruction that prompt relief is necessary. Urethral fever sometimes follows attempts at gradual dilatation in cases of this kind, which, however, are more apt to be seen in metropolitan hospitals and dispensaries, than in private practice. Internal urethrotomy should therefore be reserved as a last resort, for cases in which other, less dangerous methods of treatment, after repeated trials, have failed, or in which immediate relief is imperatively demanded. I am thoroughly convinced that such cases are exceedingly rare.

Finally, I wish to emphasize a few points which I consider of especial importance:

First: Constitutional treatment should be employed in every case.

Second: If the mass is small, enlarge it.

Third: Do not use the sound too frequently.

Fourth: Do not keep it in the urethra too long.

Fifth: Do not introduce it too far.

Sixth: Internal urethrotomy is occasionally, though rarely, necessary.

ESSAY.

SURGICAL NOTES FROM THE CASE BOOK OF A GENERAL PRACTITIONER.

By WILLIAM C. WILK, M.D., SANDY HOOK, CONN.

In presenting the following cases, from my private practice, for your consideration to-day, I am influenced by a three fold motive:

First. Because the cases are of real interest, and deserve a public record.

Second. Because they illustrate, forcibly, that the general practitioner may perform important capital operations, with the ordinary degree of success, quite as well as the specialist, and

Third. Because I believe it to be the duty of every member of this Society to present to its members, for their consideration, any cases which may prove of value in a clinical sense, as well as to add to the interest of the annual volume of transactions.

At the outset, let me say that I am a firm believer in a modified form of Listerism, and most of the following operations were performed under antiseptic precautions. While all the details of Listerism were not carried out, yet the strictest attention was paid to details, the preparation of the patient, cleanliness, and the spray. The latter was not played upon the wound on the patient, but, rather, made to fill the room with a thoroughly antiseptic atmosphere.

Using this method, I have performed in three years, seventy-nine capital operations with but four deaths. They were a case of total extirpation of the uterus, vaginal method, for carcinoma; an excision of the hip joint; an amputation at the elbow,—railroad accident from train; and an ovariectomy. I desire, here, to acknowledge my indebtedness to Dr. A. W. Leighton of New

Haven, for the elegant drawings accompanying this paper, most of which were taken from life, and, in some instances, during the operation.

A SEVERE CASE OF TRAUMATIC TETANUS. RECOVERY.

Cases of tetanus, of any character whatever, which recover, are of exceeding interest to the general practitioner, and when they approach in severity the following one, and then get well, the therapeutics of that case are eagerly scanned, and stored up for future use. In an active practice of nearly fifteen years, I have never met with a case of the same degree of severity as the one herein recorded. After the second visit, it did seem that it could not terminate otherwise than fatally, and this idea alone prompted me to use the heroic measures which were, subsequently, adopted.

While the medicines used are not new to the profession, still I think that the doses are phenomenal, and I attribute to their use the recovery of my patient.

Frank N —, a resident of Newtown, Conn., 21 years of age, unmarried, American, sent for me on the night of February 12th. The messenger informed me that he was having fox, and that some of the family thought that he might have taken an overdose of laudanum. As you may well imagine, I went as quickly as possible. On my arrival at the bedside of the patient, I found him perfectly conscious, but suffering, as he informed me, from inward chills, and his attendants said that he had had a trumber of ill-defined convulsions. On making inquiry as to the history of the case, I learned that on the week previous he had cut his knee immediately over the patella with an axe, that the wound had bled entirely, and that there was at this time no evidence of the injury, save a well-formed cicatrix. For a few days previous to my visit, he had complained of pains, more or less severe, in the limbs, and the various muscles of the body, creeping, chilly sensations up and down the spine, with quite pronounced chills at night. His head had ached, more or less, he had had hot flashes alternating with chilly sensations, and, finally, pronounced muscular pains all over the body. His temperature at this time was 101.2° , his pulse 126, full and bounding. After a careful examination of the case, the theory of spasm poisoning was abandoned, for the obvious reason that none of the symptoms of that condition were present, and I was inclined to doubt the theory of convulsions, on the

ground that there was not present at the time of the examination, sufficient evidence of that degree of exhaustion which we would be very likely to find after a case of the kind described by the patient's friends. He was rational and answered all my questions correctly and promptly. After waiting a reasonable length of time for the return of the fits, as described, and none appearing, I made a diagnosis of a probable moderate congestive chill,—the locality where he resided being particularly malarious. I gave directions to have him take an eighth of a grain of morphia every two hours, to quiet his nervousness and overcome his alarm, and ordered him an emeta, consisting of an ounce each of scum leaves and opium salts, steeped twenty minutes in a quart of hot water, to unload his bowels. I also ordered him to commence taking two grains of quinine every two hours on the following morning, and left him with a promise to see him some time during the next day. Professional engagements, however, over which I had no control, prevented me from seeing him at all on the 8th, but as I was on my way to his residence, early the morning of the 10th, I met a messenger coming for me, who informed me that the patient was very much worse, and urged me to be as expeditious as possible. In a few minutes I was at his house. On entering his room I found four men trying to hold him in bed. He was in convulsions, passing from one to another with great rapidity. They were of the most frightful character I have ever witnessed. The coordination was perfect, the weight of the body resting upon the occiput and heels, the contour of the body making a perfect bow. The convulsions followed each other with great rapidity, repeating themselves again and again, until it did seem as if exhausted nature would succumb. Sitting down by his bed-side I administered some chloroform from a napkin, and, after some little effort, succeeded in getting him under its influence, but it was only when fully anaesthetized that the convulsions ceased. I stayed with him about two hours, and by watching him closely, and giving him chloroform liberally, I was enabled to keep the convulsions fairly under control. On leaving him I ordered the morphia in one-half grain doses, and, directing that the chloroform should be continued whenever the convulsions returned. I promised to see him early in the evening and, if necessary, stay all night with him. At about 8 o'clock, *c. m.*, I visited him again. From information gained from the friends, I found that he had been very

only at short intervals during the day, and then, only when under the influence of the chloroform. The repeated and large doses of morphia, seemingly, had no effect whatever. On entering his bedroom I found him in a most distressing convulsion, which I cut short by a very free and prompt administration of the chloroform. After getting him quiet, I gave him sixty grains of chloral hydrate mixed with sugar and water. This he retained well, and in the course of twenty minutes, I became satisfied that there was an improvement in his condition. Another convulsion threatening at this time, I administered another dose of the same remedy and of the same size. After this he became quiet and did not have another convulsion for two hours. Being compelled to see another urgent case, I left him with directions to give a like dose every half hour, or every twenty minutes in the event of the return of the convulsions. This was the only medicine that was given after this—the morphia being stopped,—except that the chloroform was administered to help the chloral when it would not control the convulsions sufficiently.

In the meantime the bowels had been thoroughly unloaded with the enema, and the skin was in a little better condition, his pulse, however, was 144, and his temperature was 104° Fahrenheit. It is estimated by his friends, and I do not doubt it myself, that he had had from seventy-five to one hundred convulsions in the previous twenty-four hours. During that time a marked redness appeared at the edges of the osatrix on the knee, and did not disappear till convalescence was fully established. For several days the convulsions returned many times, but under the continued administration of the chloral in large doses, they became less and less severe, and less and less frequent, until the 20th of February, when they ceased entirely. The chloral was given every two, three, or four hours, during all this time, the whole amount consumed being six ounces and a half besides the administration by inhalation of two pounds and a half of chloroform. After the 20th he was put upon large doses of the bromide of potassium, a full dose—sixty grains of chloral—being given at bedtime, in order to insure a good night's rest. Soon after the convulsions ceased, he commenced to have a ravenous appetite, which it was exceedingly difficult to satisfy without interfering with his digestion. The patient, seemingly, made an excellent recovery, and on Friday, the 27th day of February, I made what I supposed to be

my last visit, leaving him in most excellent spirits and complaining only of muscular soreness. I cautioned him against leaving his room or going out doors for a week; impressed upon him the necessity of great care in his diet, and the avoidance of undue excitement. Two days afterwards (Sunday), he insisted upon being taken to his house, about a mile distant, and upon his arrival there made a very hearty supper of indigestible food, winding up with some cake which had been fried in grease. The result was that before midnight he had a relapse of his trouble, and before I saw him the following morning at six o'clock, had had thirty-one consecutive convulsions. He was immediately put upon the old treatment, the chloral administered in large and repeated doses, and, after a long and severe illness, suffering two or three relapses, he finally, after the expiration of seven weeks, entirely recovered. His nervous system long showed very prominently the terrific ordeal through which it had passed, and for a time exhibited all the evidence of that nervous trouble so rare in the male—hysteria.

HERNIOLOGY AT 79.—RECOVERY.

The 16th of September, 1884, I received a note from my esteemed friend, Dr. A. L. Williams of Brookfield, informing me that he had a case of strangulated hernia, which he had failed to reduce, desiring my assistance, and requesting me, if necessary, to operate. Taking Dr. L. N. Wilcoxson, then residing in Norwalk, but now of New Haven, in the carriage with me and prepared with the necessary instruments, I at once repaired to the house of the patient, where I found Dr. Williams awaiting me. The doctor very kindly gave me the following history. Michael M. —, aged 79, had for a number of years been suffering from a large inguinal hernia of the right side. He had worn no truss, had made no special effort to keep it in place, and though several times it had caused him annoyance, and a little sickness at the stomach, due to incipient strangulation, still he had been able to reduce it himself up to this time. Twenty-four hours before my arrival however, it became strangulated. After a prolonged effort on his part to reduce it, and failing in the attempt, he sent for Dr. Williams, who, between that time and the hour of my visit, made every attempt to reduce the strangulation by taxis. Upon examination I found all the evidence of strangulation, in a well-nourished Irish

man who seemed to be suffering considerably from prostration, induced by his condition. I advised that he should be placed under the influence of an anæsthetic, and while in that condition, taxis performed; failing in the attempt, that the sac should be opened, and if that failed, that herniotomy should be performed.

These alternatives being laid before the patient and his family, they decided to leave the matter entirely in our hands. The patient was placed under the influence of ether by Dr. Williamson, and while deeply anesthetized, both Dr. Williams and myself made earnest efforts at taxis, but without avail. A fine sigmoidæa needle was then pushed into the sac and a considerable amount of fluid and gas withdrawn, taxis was then again applied, but without success. I then performed herniotomy in the usual manner, breaking down the adhesions, which were strong and abundant, opening the sac, and with considerable difficulty, returning it to the abdominal cavity. The patient was under the influence of the anæsthetic about an hour altogether. He rallied from the operation nicely, and made a rapid recovery without a single untoward symptom.

The after treatment was conducted entirely by Dr. Williams, who deserves great credit for his skill, as I did not see the case again until he walked into my office a month later.

The result of the operation was all that could be desired, and though the case was an exceedingly unfavorable one, it taught me the important lesson, that even people of extreme age undergo formidable operations, and recover from grave conditions without any special constitutional manifestations.

AMPUTATION NEAR THE SHOULDER JOINT, FOR GANGRENE FOLLOWING
TRYPAVERIAN.—RECOVERY.

April 26, 1883, I received a message from my friend Dr. Hill of Stepney, calling me to appoint the time to see a case of gangrene of the arm in a negro who would, probably, require surgical aid. I appointed the following morning at 10 o'clock, to visit Dr. Hill, which I did, at the residence of the patient, and obtained the following history:

J. M.—, negro, 29 years of age, was suddenly taken ill about three weeks previously, with all the symptoms of malaria. On account of the color of the patient, it was impossible to find any discoloration or eruption which would lead the doctor to suppose

that it was what it subsequently turned out to be, a case of erysipelas, and the doctor's first question to me on my arrival, was, "how would you diagnose a case of erysipelas in a negro in its early stages?" I confessed to him I did not know, and I confess now I do not know. In about a week from the beginning of the attack, abscesses appeared along the inner and outer surfaces of the arm, fore-arm, and hand, which was the first indication that the doctor had that he was dealing with a case of erysipelas. This condition went on from bad to worse, till it involved the whole of the cellular tissue of the arm, fore-arm, and hand. Large abscesses formed over the pectoral muscles, until, at the time when I saw him, the arm and side presented the most frightful mass of putrid flesh and decomposed tissue that it has ever been my privilege to see attached to the living human body. The patient was anæmic, exhausted with long suffering, no appetite, constipated bowels, a high temperature, and a weak and rapid pulse. Prominent signs of disorganization were present, and I must confess that it was one of the most unpromising cases upon which I was ever called to operate. Nothing could be done for the patient save an operation at or near the shoulder joint, and even then it seemed like sacrilege to operate upon a man who was, apparently, so nearly exhausted. After a long and earnest consultation with the doctor, we decided to give the patient the only chance we could see for his life. He was given a large dose of whisky, after which Dr. Hill put him under the influence of ether.

When the patient was fully anesthetized I performed a double-flap operation, amputating $1\frac{1}{2}$ inches below the shoulder joint. It was a difficult matter to obtain sound cutaneous flap, as a large portion of the muscles of the arm were fully exposed, the skin having sloughed away, leaving but a scabby pattern for a stump. After the limb was severed I closed the wound with a strong solution of carbolic acid (one to twenty), inserted a drainage tube, and brought together the flaps, as well as could be done under the circumstances. An incision was then made through the connective tissues from the axilla down to the ilium, seven inches and a half deep, evacuating quantities of pus. The cavities thus opened were thoroughly cleaned with a strong solution of carbolic acid, and the wound left to heal from the bottom by granulation. The operation lasted about half an hour, and the patient, relieved from the effects of it very slowly and imperfectly. After a very tedious

convalescence, however, he finally recovered with a most excellent result.

I saw the case only once during the after-treatment, and the result is due, largely, to the care, skill, and fidelity with which Dr. Hill conducted it.

RESECTION OF THE ENTIRE SHAFT OF THE TIBIA FOR NECROSIS, WITH
REPRODUCTION OF THE BONE. — RECOVERY.

May 8, 1883, I was consulted by the parents of Willie W—, in relation to a running sore on the skin of his left leg. On external examination I found three openings leading through sinuses, which were found to lead to dead bone. The tibia was much enlarged and the boy showed a decided limp in his gait. He suffered considerable pain, especially at night, which had been controlled chiefly by opiates. The boy was twelve years old, with hereditary scrofulous tendencies, and had the history of a fall striking his shin violently against the iron rail of a railroad crossing, causing, at the time, quite a severe contusion, which was followed by considerable inflammation. Soon after the bone commenced to enlarge, and had continued to increase in size up to the date of my first visit. The sinuses had opened about a year before, and continued to discharge ever since. The boy's general health was poor, he giving every evidence of the exhausting character of the discharges, and it was quite evident that the injuries he had received three years previously had lit up an inflammation of the periosteum which led to grave destruction of bone tissue. It was also quite evident that if the impairment of the general health was allowed to go on, the result could not be other than death, and the struggle apparently, could not be a long one. I advised operative interference, of exactly what character, however, it would be hard for me to say, until after an exploratory incision had been made. The family consenting, I put the boy upon a month's preparatory treatment, getting the secretions in perfect order, building up the general health with cod liver oil, iron, tonics, and liberal diet. On the 11th of May, with the assistance of Dr. J. J. Berry of South Norwalk, who kindly administered the ether, and Dr. S. T. De La Maier of Bridgeport, I made an incision along the line of the tibia down to the bone. Cutting through the diseased periosteum and carefully lifting it away, I found the bone to be badly diseased, so much so, that after consultation with the two physicians it was

decided to remove the entire shaft. The condition of the bone will be seen by consulting Fig. 1, which represents it as removed. Fig. 2, represents the same bone sawn through longitudinally. It



FIG. 1.



FIG. 2.

its removal I was particularly careful not to injure the peritoneum, peeling it up cautiously, and as nearly as possible, keeping it intact.



FIG. 1.

After removing the shaft, a considerable quantity of diseased bone, at each end, was removed with the gouge. After this was all removed, I packed the cavity with absorbent cotton moistened with a solution of carbolic acid (one to twenty). The boy rallied nicely from the operation, and under the influence of the same treatment that was pursued in the preparation of the case, healthy granulations sprang up and there was soon evidence of the production of new bone. After two months, the new shaft was strong enough to allow the fitting of the shoe to which were attached lemons at the side, with the joints at the ankle, the upper ends of which grasped the limb just below the knee, by a steel padded band. By this time the external wound had healed, and the boy was put upon crutches. From this time out, the progress was uninterrupted, and Fig. 3, accompanying this paper, will show the limb as it is to-day. The tibia is now strong and well formed, and the termination of the case is all that could be desired.

4. FORMIDABLE CASE OF INJURY TO THE HAND WITH RECOVERY.

It is seldom that a surgeon sees an injury of the character of the case detailed below, involving as it did, the crushing of the bones of the finger, and to a certain extent, of the hand, with severe laceration of all the soft parts, which were badly lacerated besides. It is still more infrequent that a case of this description recovers the use of the part involved, with or without more surgical interference than the simple dressing of the injury, and the cure which it would naturally demand. This case illustrates forcibly also the power of nature to recover from severe injury, without much deformity or impairment of the usefulness of the part.

Patrick C—, an Irishman, aged 44, while working in the factory of the New York Belling and Packing Company, of Sandy Hook, Ct., upon what is called a calender machine, had his hand drawn between two heavy rolls and injured. These rolls weigh about two tons apiece, revolving only at a distance of a sixteenth of an inch from each other. The upper roll makes three revolutions to one of the under. While in use, the rolls are filled with steam and heated anywhere from 300° to 200° Fahrenheit. At the time of the accident Mr. C. was running this machine for the purpose of spreading rubber over some cotton goods. His hand was carelessly resting on the make roll, when it was suddenly drawn in. After the machinery was stopped, which was very quickly

time, he had to keep his hand where it was until the immense top roll was raised from its position and his hand pulled out, which occupied some moments. On my arrival I found, on examination, the following condition: The hand had been drawn into the machine in such a manner that the palm was turned upward, and, as a consequence, the dorsal surface was but little injured, owing to the fact that the lower roll was only a little warm at the time of the accident, and was going so slowly, but the palmar surfaces were fear-



FIG. 1.

FIG. 2.

fully lacerated and cooked, so that they were *adly*, with the flesh adherent to them, about an eighth of an inch in thickness, the bones being badly crushed. I forgot to state that on examination I also found all the ligaments of the palmar surface were in view, and more or less cooked. The thumb was uninjured, save that it was badly burned. To make up, however, for the immunity of the thumb from injury, the second finger was terribly lacerated.

It was not very badly crushed and rocked, but the end, as far as below the first joint, was literally torn off, hanging by a little strip of integument. I desired to remove this, but the objections raised



Fig. 2.

by the family and the man himself, were so great that I was forced to desist, and put it together as well as I could. After drawing the parts well together, I dressed them with a solution of carbolic acid (one part to forty), directing that it be applied fresh every fifteen minutes. The engravings, Figs. 1 and 2, will show the case (as it was two days after the injury was received), in its palmar and dorsal aspects. The dressing was subsequently changed for an ointment of carbolic acid, made of 28 parts of cod-liver oil to one of the acid. In spite of the extent of his injuries, the man made a good recovery, having only two stiff fingers (the second and third), the other two being almost as good as new. The lumbar nerve recovered from the ballooning process to which they were subjected, and to this day (three years), are not more than three-sixteenths of an inch in thickness. Fig. 3 will show the result.

A UNIQUE CASE OF CONGENITAL DOUBLE TALIPES VARO-QUINUS, OF THIRTY-THREE YEARS STANDING — OPERATION — PERFECT CURE.

The subject of talipes is one of deep interest to the progressive surgeon, and any case which will give reliable clinical data, is eagerly sought after by him. I think the following case is so unique in many of its particulars, that I am constrained to put it on record for the benefit of science. As a rule, the operation of

tomy for the relief of talipes, of even simple character in the adult, does not hold out great encouragement for definite results, and operations of this character are generally discouraged, except under certain circumstances, by leading orthopedic authorities in the text-books upon this subject. In fact, it is rare to see an account of such cases, whether successful or unsuccessful, by even prominent operators. This fact, alone, would lead me to believe that it is not commonly performed. Consequently, when the results gained in a case are so gratifying as in the one herein recorded, I think that it is my duty to present it, to be added to the quota of the minimal operations for the relief of this deformity.

Mrs. H—, a married woman, children 31 years old, came to me in the latter part of the month of February, 1878, and gave me the following history: She said that she was born with both feet deformed in the same degree, that she had as a child been nervous and delicate, and of an extremely sensitive and retiring disposition. Being of a feeble constitution, unlike other children, it was a long time before she learned to walk, and when she did, she was only able to go a little way at a time without fatigue. The difficulty of walking continued more or less up to the time when she first consulted me. A little extra work, or exertion, would cause the sensitive feet to become so sore, inflamed, and tender, that she would have to practice them, lying in bed for days at a time, in order that they might regain their normal condition. She also informed me that when she was nine years old, while crossing a ryo field where the grain had been harvested a large stubble penetrated one of her feet (as she said, the sole), cutting it badly. After the receipt of this accident, she was taken to her home and was confined to her bed with a badly swollen and exceedingly painful foot for several weeks. When she recovered, the position of the foot, to her surprise, had greatly changed for the better, and commencing to use it in the natural way from this time, she, after several months, succeeded in restoring it to its natural position. This was the left foot, and if you will consult Fig. 1, you will see that it presents a nearly normal condition. The piece of ryo stubble which penetrated her foot, performed for this woman what the surgeon would have done had he had the opportunity of operating. It is quite evident that the plantar fascia was cut and, probably, some of the tendons, releasing the foot from its position and actually performing the operation of tenotomy. I

think I can safely claim this as the first operation of this description, done in this manner, and by these means, for the State of Connecticut. On my examination of the patient I found her wearing a shoe shaped like a flat-iron. On the removal of the shoe I found a most exaggerated case of talipes varus equinus, the worst I ever saw. The foot was frightfully distorted, as shown in Fig. 1, and the callous spots which had formed on the lateral surfaces were inflamed and exceedingly painful. These patches of thickened



FIG. 1.

skin were very large, and occupied almost all of the external lateral surface of the foot. There was also considerable inflammation of the tissue surrounding these hardened places. After several days' effort, I succeeded in reducing the inflammation, and making a careful examination of the foot, by applying the test of Dr. Sayre, of putting the ligaments upon the stretch and making pressure, I got as a result, a reflex spasm.

Acting upon Dr. Sayre's theory of this phenomenon, I advised

the operation of tenotomy, as offering the only means of affording any degree of permanent relief. The woman in her then present condition, was disgusted with life. She did not take any comfort in walking or standing upon her feet, nor could she, without pain, perform any of the duties which devolved upon her, and which required the use of her feet.

She being a married woman in moderate circumstances, it was incumbent upon her to perform duties which compelled her to be



FIG. 2.

a good deal upon her feet, and, as a result, her condition was miserable indeed. She eagerly grasped at the idea of the relief, which I told her I thought an operation would afford her. In

suggesting the operation of tenotomy I felt sure that the case could not be made any worse than it was at this time, and the chances were good for a certain amount of relief, provided she was thorough in carrying out the treatment subsequent to the operation, and promising readily to do all in her power. On the 10th of March, the same year, assisted by Mr. Keen, a student in my office, I placed her under the influence of ether, divided the tendo Achilles and all of the plantar fascia, with some of the lateral lig-



FIG. 1.

ments and fascia. I then attempted to bring the foot round to its normal condition, which I finally accomplished after severe effort, and the reduction of the dislocated tarsal bones. I then dressed the foot after Dr. Sayre's method, and an inflammation ensuing, I did not remove the dressings for two weeks. On their removal at the expiration of that time, I found a small spot which was indurated, on the right lateral aspect of the foot, at the base of the fifth toe, produced, evidently, by the pressure of the bandage.

The skin afterward sloughed, to the size of a twenty-cent piece. This was the only accident which happened from the beginning to the end of the case, was exceedingly obstinate in healing, owing largely to the debilitated condition of the patient. From this time on massage and electricity were faithfully and assiduously applied for nearly two years, with the result of developing the muscles of the calf of the leg to a great degree, and also of strengthening and developing those of the foot. In about a month the patient was put in a shoe made for her by John Reynders & Co., New York City, which passed from the toes to high up above the ankle and which had an artificial toe attached (Harwell), to help the weakened muscles of the foot. This shoe as applied, will be seen in Fig. 2. At this time I had the great pleasure of showing the case to my esteemed friend, Dr. Lewis A. Sayre of New York City, at that time on a visit to my home, who was greatly interested, and who gave valuable advice as to its subsequent care and treatment. From this time the case went on to uninterrupted recovery, though it was a long while before she could go without the muscle, and recovered the full use of the foot,—in all about two years; now, however, after a lapse of nearly six years, she can use it for every purpose that a good foot can be put to, and without undue fatigue. (See Fig. 3.) She also dances in it, and is able to walk fairly long distances. I think that in cases where the deformity was so great, the operation so severe, the patient so advanced in life, so good a result has rarely been obtained. I would add, also, that the woman is now in good health, it being vastly better than that which she had enjoyed before the operation.

A CASE OF *GENU VALGUM* IN THE ADULT.—OPERATION.—CURE.

An operation for the relief of the deformity called "*genu valgum*," in the earlier years of life is not an uncommon surgical procedure, and has been performed many times both in this country and abroad. The result of the majority of these cases has been exceedingly good, and the operation is quite popular among the surgeons of to-day. Surgical operations, however, for the relief of the knee in persons who have reached the age of 20 and upwards are rare, and the results obtained in many of the cases operated upon were not such as to lead to its general adoption. The cases of this deformity in the adult are also rare, and the opportunities of operating correspondingly low. In Europe it has

been performed quite a number of times, and with moderate success, but in the United States I have failed to find a single case recorded which has been operated upon after the age of fifteen. Neither do I find any case in which the deformity has been removed in America by the method advocated in this paper, and which was performed with such excellent results. The age of the patient, the length of time the deformity had existed, the method of operating, the most excellent result, with the interesting history of the case, make it, I believe, a most important one to place upon record. The subject of knock-knee has caused more or less discussion during the last seven years, in fact, more than any other orthopædic condition, and the literature on the subject is extensive. The researches of Mikulicz, corroborated as they are by those of Tryler, Verneuil, and Guetier, show that the deformity is not due, primarily to any abnormal condition of the ligament, but to an unnatural shape of the bone, which consists chiefly of a projection of the internal condyle downward.

This, it is claimed, is the result, partly of a diaphyseal curve, and an unequal bone-growth on the two sides of the diaphysis near the epiphyseal line, the weight of the body acting upon the change of axis produced, helps to complete the deformity. The contraction of the ham-strings, as often noticed, is not essential to the deformity, and is not a necessary factor of the same. It has, also, been shown by Olsson, that an irritation of the condyle will, alone, cause deformity of these parts. Mr. Brodhurst, however, does not consider the lengthening of the condyle as the cause of the deformity, but from my personal experience and the result of the advocacy of this opinion by Mikulicz, and by the most prominent orthopædic surgeons of the day, I believe it to be the correct one. The mode of operating which was carried out in the case here reported originated with Mr. Ogston of London, and it seems to me to be the best yet devised for adults.

Miss Sarah C.—, aged 13, American, single, school teacher, very short, sixty-two inches in height, came to my office on the 11th day of September, 1883, and gave me the following history: When she was eleven months old she was taken ill with what was called chronic diarrhoea. At the time of the attack she was able to walk, and was considered a remarkably precocious and healthy child, well-dressed in every way. Her illness was a long one and it was nearly a year before she recovered from the diarrhoea. At

Fig. 1.



this time she was very weak, and showed a decided aversion to standing up. When three years of age the family moved from North Carolina to Connecticut, and she was then no larger than a child of eighteen months. After her removal to Connecticut, she did not walk for nearly a year, but learned to sit with the left foot under the body, and would cry if it was put down. The habit of sitting on the foot was kept up, almost unconsciously, until the operation was performed. When she arrived at the age of four years, she was put upon her feet, and after a little while was able to walk a short distance with the aid of a staff. It was at this time that the inclination of the knee to turn, was noticed, but it was hoped that as strength was restored it would regain its natural position. This happy result did not occur, however; the limb grew no worse, and when she was nine years old she walked to school without any staff and without any apparent inconvenience. From this time until she was eighteen years old, she could walk even two or three miles with no more trouble from that limb than the other. At this time she passed an examination and became a teacher in one of the public schools of the state, walking a mile to the school house and back every day, besides being on her feet almost all the time at school. From 18 to 20, she could not walk so far, and began to notice a difference in the angle at the knee, which was also painful at times. When she arrived at the age of about 30, the hip began to ache and as she described it, "as being accompanied with a numb, disagreeable feeling right in the joint," the spot seemed as if it could be covered with the finger. At this time she also noticed when she walked farther than usual, there would be a catch or cramp, which would prevent the step from being taken for a moment, when it would end and then resume again after a time. It was at this time she came to consult me. I found her complaining of a severe pain at the ankle and hip joints, as well as a great deformity, as is shown in Fig. 1. As an example of pique, I would incidentally mention here, that she had schooled herself to walk slowly and deliberately, and on her entering my office for the first time I did not notice a bit of limp or limp in her gait, and was amazed at the extent of the deformity she displayed. In order to satisfy myself that the deception was perfect, I afterwards made her walk, and she did not make any sign that would indicate a deformity of any character whatever. As will be seen by the accompanying drawing the deformity was

very great, but even this does not show it to its full extent, owing to the position in which the picture was taken; to show the full elevation of the hip. The left knee completely lapped over the right one. The patella was entirely dislocated and rested over on the external condyle of the femur.

After a careful examination, I told her frankly, that I did not think any appliances would do her much good, and in order to get the



FIG. 1.



FIG. 2.



FIG. 3.

desired relief, I believed a radical operation would be necessary. To this she decidedly objected, when I decided to put on the instrument shown in Fig. 2, and for this purpose I went with her to John Beynders & Co., the instrument makers of New York City, where she was measured for the splint. While in the city at this time with her, I took her to Dr. L. A. Sayre's office, and showed the case to him. He said that it was a most unique case, and advised an operation, telling the patient the danger of a fracture in case of a fall, &c. After the splint had been tried faithfully for several months, with little if any relief, and the pain growing greater at the hip, knee, and ankle, she finally decided to have the operation performed.

After two weeks of preparatory treatment, on the 4th day of June, at the Grand Central Hotel, Newtown, Conn., in the presence of Drs. J. J. Berry of South Newfield, Dr. B. T. De LaMotte of Bridgeport, and Dr. E. M. Smith, of Danbury, Conn., I performed the following operation: The patient having been placed under the influence of ether by Dr. Berry, I made an incision one and one-half inches long, and two and one-half inches above the inner condyle of the femur. This incision was carried down to the bone, its length—which may seem unnecessary,—was required because the patient was so fleshy. A Hayes saw was then introduced into the wound and the work of sawing was commenced at the base of the condyle, the blade of the saw being protected by two retractors. After sawing as long as I could get the instrument to work, I took a chisel and with one or two blows of the mallet severed the condyle from its attachment. I then performed subcutaneous tenotomy of the external hamstring tendons. The constricting bands and contracting ligaments were also severed, and with but little effort the condyle was pushed up by the side of the shaft of the femur, and the limb was brought round to its natural position. The only accident that happened during the operation, was the cutting of the peroneal nerve, which runs close to the tendon of the biceps muscle.

Fig. 1 will give a fair idea of the case after the severing of the condyle, and just before the straightening of the limb took place, as well as the position the fragment occupied after the limb had been brought into place. The wound was then brought together with interrupted sutures, and dressed with antiseptic carbolized gauze dressing. A woolen stocking was then

drawn over all and a plaster of paris bandage carefully applied and allowed to harden while the limb was held in position. The operation occupied about an hour, and after the dressings were applied, the patient was put to bed and given half a grain of morphia hypodermically. The patient did unusually well after the vomiting from the effects of the ether had passed off; not an untoward symptom supervening from the day of the operation to the close of the convalescence. A large drainage tube had been passed through the angle of the wound, which was then irrigated with a 1 to 40 carbolic solution twice, and some times three times a day, till the first plaster bandage was removed, two weeks and two days after the operation took place. On the removal of the dressings at this time, the wound was found to have healed throughout its whole extent except where the drainage tube made entrance and exit. At this time the tube was removed, and the wound rapidly closed. At the end of another week I put another plaster of paris dressing on, and allowed it to remain until the 11th day of July, when the little instrument illustrated in Fig. 4 was put on and the patient set upon her feet for the first time. In a few more days she had her crutches and was walking about the halls of the hotel. On September 8th, she commenced teaching school again, at which occupation she has been steadily engaged ever since. At that time she could walk without any help at all, if the ropes were taken slowly, and the deformity was all removed, as will be seen by Fig. 5. I would not allow her, however, to go out of doors without crutches all winter, for fear of an accident from a fall. Evidence of the union of the severed nerve was manifest at the end of two weeks, and the loss of sensation has entirely disappeared.

The ease with which an operation of this kind may be performed, and the chances of recovery which it offers, should render it more popular than it now is. If we may accept the secondary changes sometimes following old deformities of this character, the conditions of recovery are equally good in both early and adult life. Even when such unpleasant features are present, as this case shows, an operation offers a good chance of relief, if not cure. I would say that I believe that this is the first time this operation has been performed upon the ulnii in this country.

Fig. 5.



SIMPLE CYST OF THE LEFT OVARY—WEIGHT TWENTY-TWO OUNCES—
OPERATION—RECOVERY.

Mrs. N.—, aged 32, married, no children, consulted me December 27, 1884, for an enlargement in the left side of the abdomen, which she had first noticed a month previously. At this time, the examination showed the tumor to be a simple cyst of the left ovary, of moderate size, as the circumference of the abdomen was but thirty-three inches. She appeared in excellent health and suffered but little pain or inconvenience. During the following month I referred her to Dr. T. Gallant Thomas of New York City, who confirmed my diagnosis.

I then decided to operate and put the patient for two weeks upon preparatory treatment, which consisted of careful attention to the skin, bowels, and bowels. Two grains of quinine were given three times a day, and general tonics, combined with Mergel's liquid food. For three days previous to the operation, the food consisted entirely of liquid nourishment and the pan foods as prepared by Mergel. Twelve hours before the operation occurred, she received fifteen grains of quinine.

The operation was performed February 1st. There were present Drs. Henry, Porter, Barry, De La Mare, Hill, Young, and Kilian. The patient was in excellent condition, and took the ether well. Every exertion was made to secure the best possible antiseptic surroundings. The room in which the operation was performed, and in which the patient afterwards remained was most thoroughly disinfected, the floor scrubbed with carbolic water, the walls scraped, and the ceilings whitewashed with a disinfecting solution. During the operation, the temperature of the room was kept at 60°. Antiseptic precautions were taken by the operator and his assistants. The instruments were immersed in a one to twenty solution of carbolic acid, and the sponges were placed in a corrosive sublimate solution, one to two thousand. An incision less than three inches in length was made in the median line, between the pubes and umbilicus, and, the tissues having been divided down to the peritoneum, the latter was entered. By introducing a needle and passing it around the periphery of the tumor, the latter was found to be free from adhesions. The cyst was punctured with the trocar. There found some difficulty in holding and retaining the collapsed cyst-wall in close apposition with the tra-

est and abdominal incision. To overcome this difficulty they were transfixed, on either side, with a large blanket-pin (such as I show you). These were then handed to an assistant who was enabled to keep control of the cyst. The one was now drawn through the abdominal incision, and the pedicle, being broad and of fair length, was transfixed and ligated with a strong double ligature of carbolic acid non-dyed silk. It was then dropped into the abdominal cavity.

The latter having been thoroughly cleaned, the peritoneum and divided tissues were brought into apposition, and held with silver wire and pin sutures. The wound was dressed with iododerm, antiseptic gauze and cotton dressings were applied. Immediately after the operation the temperature was 98° , and the pulse 94. The patient suffered very little from shock, and rallied well and promptly.

At 1 o'clock, P.M. the temperature was 99.1° , and the pulse 90. I gave a hypodermic injection of a quarter of a grain of morphia, and an ounce of one ounce of Murdock's liquid food; she passed water freely. After this, she slept and rested comfortably for several hours. February 24th, 1 A.M., an ounce of Murdock's food was given. From this time until 8.30 A.M., she rested quietly. Six A.M., temperature 100° , pulse 90. Three P.M., temperature 100.5° , pulse 114. The patient passed a comfortable day, took several ounces of Murdock's liquid food, and one of milk and brandy, which not being well retained, was abandoned, and from this time out, nothing but Murdock's liquid food was used. Ice, by the mouth, *ad libitum*, with an occasional small dose of brandy. Passed water several times during the day.

February 25th, 6 A.M., has rested splendidly all night; has taken brandy and ice at frequent intervals; has had no vomiting or gastric disturbances.

February 26th, 6 A.M., pulse 95, temperature 98.2° . Feels first raze and clamors loudly for food; no soreness, no tympanitis. Gave her a teaspoonful of beef peptonoids, and spoonful dose of liquid food at intervals during the forenoon. At noon she had two oysters and a small piece of toast. Six P.M., temperature 100.2° , pulse 95; took $\frac{1}{4}$ of a grain of morphia hypodermically, to allay restlessness.

February 27th, 6 A.M., temperature 100° , pulse 95. She has taken the usual cathartics, and in addition small quantities of liquid

food, liquid, broth, brandy, and peptonized. Has had very little pain and has rested well.

February 26th, 8 a.m., pulse 86, temperature 99.5°. March 1st, 8 a.m., pulse 84, temperature 99°. March 24 8 a.m., pulse 78, temperature 98.7°. On March 3d, the eighth day from the operation, all the sutures were removed, and the wound was found to have healed by first intention.

On the fourteenth day she sat up in bed, and on the 21st, when my last visit was made, she went into the dining-room to dinner. It will be noticed that the nourishment which the patient took for the first three days after the operation consisted entirely of *elements of Murrell's Liquid Food*, and was that for the first week it was the principal diet. I consider that it rendered me the most valuable service in sustaining life in this case, as it has in many others, in which I have used it.

FIBRO-CYSTIC TUMOR OF THE RIGHT OVARY—OPERATION—DAYE THE FIFTH DAY.

Mrs. J.—, American, married, mother of six children, consulted me for the first time in September, 1884, seeking relief from a lump in her right side, which she had noticed only a few months previously.

Examination revealed the existence of a round globular tumor in the right *ilac fossa*, which was about the size of an orange, of smooth outline and slowly movable. As there was no history of rapid growth, I advised a few weeks delay for further observation. During the next six months I saw her frequently and noticed that the tumor was growing rapidly. At the end of this time, Drs. De La Mater and Berry, at my suggestion, saw and examined the patient. The woman was then in fair condition, though her health had deteriorated somewhat during the last few months. The tumor was found on examination to be about the size of a child's head, it lay deeply in the right *ilac fossa* and probably within the abdominal cavity. It seemed to have no direct connection with the uterus and moved freely from side to side. It appeared to the touch nearly round in shape and of firm texture. The contour was a little irregular. No fluctuating points could be detected. The examination resulted in a diagnosis of fibro-cystic tumor of the right ovary, and an operation was deemed advisable as soon as possible. The consent of the patient to surgical interference lay

ing been obtained, she was put upon a ten days' course of preparatory treatment, this being similar in character to that employed in the preceding case. The operation was performed March 25, 1885, there being present Drs. Porter, Brown, Berry, Leighton, Andrews, and Smith. The usual antiseptic precautions as to the surroundings, instruments, dressing, etc. were taken. A carbolic spray was furnished by an Esmarch apparatus which did most excellent work. During the operation the room was kept at a temperature of 82° Fahrenheit. One of the chief points of interest in this case relates to the shape of the tumor, which was innervated. Before touching the knife I had determined that, if an auxiliary transverse incision offered any advantage at all, in the removal of such a hard non-compressible tumor as I believed this to be, I should not hesitate to prefer it to a very long median section.

On exposing the growth by a short exploratory incision, it proved to be largely fleshy and of very firm texture with multiple cysts so distributed that an attempt to evacuate would have occasioned considerable loss of time and a risk of contaminating the peritoneal cavity. I therefore made a transverse cut from the umbilicus obliquely four inches toward the crest of the ilium. These two incisions resulted in an angular flap, which on being turned back, gave me every facility for the extirpation of the tumor. The hemorrhage produced by this gross section of the muscle was but very trifling, ceasing hardly a moment's delay. Through the opening thus made the tumor was easily drawn, and the pedicle, which was long, having been transfixed and tied with a double ligature of iron-wired silk, was returned into the abdominal cavity. The viscera were retained by means of a large diphtheria-scar sponge and by warm carbolicol cloths. In this case, as well as in the one reported above, one of the benefits of a thorough preparatory treatment was shown by the absence of gaseous and solid material in the intestines. The peritoneal cavity having been thoroughly cleaned, the edges of the wound were brought together and secured by ten wire sutures and twelve wire hair-pins. The wound itself was then covered with iodoform, carbolic gauze, and cotton, the whole being secured by a tightly applied abdominal bandage. The duration of the operation was about fifty minutes. The patient recovered promptly from the ether, and gave evidence of very little shock. At 5 p. m., four hours after the operation, the pulse was 65, and the temperature



Fig. 1



FIG. 1.

68 1/2" (twenty-eight and seven tenths). She possessed a fairly comfortable sight, had some pain, and vomited occasionally. For this she received morphine hypodermically, cracked ice, and champagne. The peculiarity of her symptoms and general condition the morning following the operation led me to suspect that she was addicted to the use of opium. Upon questioning her I found that this was so, and that for the past few years she had been consuming large quantities of the drug—a fact which was a most unwelcome one to me, as it is said to reduce the chances of life in this class of operations fully one-half, and had I known it before the operation was performed I doubt very much if I would have consented to do it. The patient informed me when I questioned her as to why she did not let me know this before, that she was afraid that if I had been aware of it I would not have performed the operation, and that she did not want to live in this condition any longer. March 21st, 8 a. m., temperature 93°, pulse 95. She ate part of the night, but was quite restless at the time, and requested exceedingly large doses

of the morphine. Vomited several times. Has taken Murdock's Food, brandy, champagne, and beef peptonosis. 6 p.m., temperature 103.5° (ninety-nine and one-half), pulse 162. Has been restless, and complains of some tenderness and pain in the abdomen. Vomiting still persists. Stimulants increased, and still larger doses of morphine administered.

March 29th, 6 a.m., temperature 102° , pulse 158. Has had a bad night, shows distinct evidences of peritonitis, which grew more and more marked during the day. Toward night a higher temperature, followed by a delirium. Pulse 169, temperature



FIG. 1.

103.5° (one hundred and five and one-half). Quinine in thirty grain doses was given per rectum every four hours, morphia pushed to the point of tolerance, with all the stimulants which she could take—brandy, champagne, and carbonate of ammonia, but in spite of every effort, and constant attendance on my part for two days and two nights, she rapidly sank and died at 6 p.m., Monday, March 30th, having lived six hours on the fifth day from the operation.

Twelve hours after death I made a post mortem examination of the wound, which showed that it had healed by first intention throughout. Over the peritoneal surface there was perfect coap-

tion, and no unusual degree of inflammatory action. The peritoneal cavity contained about a pint of dark-colored serum. The area of peritonitis was about five inches in diameter, and was confined to the tissues around the pedicle. The accompanying cut, Fig. 1, shows the character of the incision, while the dotted lines show the different positions of the tumor during the various stages of the operation.

Figure 2 shows the wound after the completion of the operation, and the application of the sutures. Figure 3 represents a side view of the tumor with ovary attached. Figure 4 the same from



FIG. 4.

an end view. I have the pleasure, also, of presenting this specimen for your inspection. It weighed five pounds, four ounces, half of which were the fluid contents of the cyst. It is of a mixed variety, over three fourths being of a dense fibrous character, the remainder being cystic.

The last portion was evidently of later growth, and its walls were extremely thin and thin. Distributed throughout the

fibrous portion were numerous minute cysts in progress of growth. Its origin was, manifestly, in the *ovary and broad ligament*.

In the future, if I have an opportunity to remove tumors of this character, I shall not hesitate to use the transverse incision. The great ease and facility with which the operator is enabled to manipulate the diseased mass, and remove it through such an incision, can only be estimated by those who have had much experience in abdominal surgery, and have ventured to perform like operations by the old central incision. I am also firmly of the opinion that had this woman been free from the debilitating influences of the long-continued and liberal use of opium, she would have recovered.

This case, gentlemen, is the last of a series of nine ovariotomies which I have performed, six of which have been successful.

OBITUARIES.

CHARLES W. CHAMBERLAIN, M.D., HARTFORD.

By NATHAN MAYR, M.D., HARTFORD.

There is probably no man in the State of Connecticut, of this present generation, whose medical acquirements are more highly and justly estimated than those of Dr. Chamberlain. Not his activity as secretary of the society, not his success as the health officer of the State, but the personal contact with his colleagues, begot this opinion. The extent of his knowledge was only equalled by its thoroughness and by the good judgment of its application. A medical man knows what that means. In a science so large that few can compass it and penetrate deeply, in an army whose camp is pitched in more advanced positions and occupies new territories every year, to be entire and thorough, to know all and know it well, requires a method and talents of no ordinary degree.

Dr. Chamberlain was born in Providence, R. I., in 1844. It was the home of his grandparents. His mother's father was one of the first practical chemists in America, and became a lecturer on that science in Brown University. Later he went into business and rose to be one of the leading citizens of the place. This gentleman was remarkable for many traits which were reproduced in his daughter, the mother of the Doctor, and in himself, who closely resembled his mother. The father was a clergyman and located at Eastford, where the subject of our sketch passed his boyhood. His early education he received from the mother, and this lady, who felt isolated in the society of a country town, developed in him that taste for living apart and concentrated in himself which proved a powerful influence in his after life. She kept her children to herself and implanted in them that love for books, which was her only solace in a country life.

Thus we see that in the shaping of the man habits of study and aversion to society were strong factors. The doctor prepared for college, not in a school with other boys, but with his father, and he went to Brown University intending to take an abbreviated philosophical course. He found out his mistake during the first term, and returned home to study another year. Then he entered as a sophomore in 1854, and graduated in 1857. Through college he passed without confidential friends, without the claims and merry companionships which give but divert that happy period. His previous lonely life, his peculiarly entered fragility coupled with acute sensitiveness and much pride may have had their share in this.

The next move was to Pittsfield where a medical school then existed. There the doctor procured a place as teacher of physical sciences in a young ladies seminary, but at the same time attended medical lectures and read with a physician. When the Pittsfield college closed its doors he went to Albany for one course, and later to New York, where in due time he graduated at the College of Physicians and Surgeons. This was in 1871, taking a special course in throat diseases during the last year, he thought to devote himself to that department of the profession. But when he came to Hartford and started in practice he found what many others have found—that, except in very fortunate cases, it is not the young physician who determines his work, but the work that selects the man, and, in this case, it was general practice.

Soon after he had begun, Dr. Campbell returned from a course of European study, and occupied a location adjoining that of the doctor. It led to an arrangement in which co-tenancy of office with adjoining but separate living rooms were a feature. And this was perhaps the happiest time of Dr. Chamberlain's professional career—what he never before or after really possessed—it gave him a companion with similar interests, aims and fortunes. And his heart opened more to the amenities of life and fellowship, while common studies and common strange experiences of a new practice cooled and made pliant his brain-work. Within a year, a paper read on laryngeal diseases before the State medical society attracted attention, and as a consequence, more practice in this specially gravitated to the new settler. Soon after, a share in the vaccination of the schools, a goldend to young physicians at the time, helped his business greatly, and he made acquaintance

and profit by teaching the physical sciences in a young ladies' seminary near his office. This engagement continued for three years, and by that time the value of the man began to be appreciated, and his practice, if not large, was remunerative and solid.

About these years the health agitation began. A committee of which Dr. Jarvis was a member, had the unfruitful task of convincing the Connecticut public and the legislature that superintension of the state health was necessary. For this purpose they entered into preliminary investigations and drafted bills desirable to be passed. Dr. Jarvis, being much engaged in practice, threw his portion of the labor on the shoulders of Dr. Chamberlain. By this accident the attention of the latter was directed to sanitation in a large sense, and his studies of the subject were undertaken without loss of time, and with remarkable zeal and thoroughness. In a few months he mastered the history and the principles of the science, and thereafter he not infrequently coined his knowledge into lectures, to which audiences interested in social science listened with deep interest. Subsequently he acquainted himself with the details, studied the rise and fall, the ebb and flow of epidemics, the cause of disease, and their fostering circumstances, and the illustrious theories on their prevention. In short, this study, in the dimensions of the material dealt with and the compass of its objects, suited his cast of mind, and he became a student of decided and far-reaching views, and one who had perceived and judged with singular clearness.

But this anticipates. Three years went by, and the committee of the State Society was still entreating the legislature and humbling its members to compass the establishment of a board of health. In vain. The government that could spend millions on a new capitol, and a hundred thousand annually on the militia, had not three thousand to establish a bureau of registration and statistics, and a health board combined.

At the close of the session, almost by an accident, the bill was reconsidered and passed, and with it the life of Dr. Chamberlain entered a new phase.

It had been arranged by Governor Hubbard that he should be overt secretary, and from this period his work became a matter of public record. We all know what he did in those years from 1871 to 1883. Now, on the one hand, he had to establish rules,

create better distributive principles, and teach procedures to an unwilling, self-governed community, exceedingly loth to receive them; and, here on the other, he was forced to prop the institution, and defend it annually from the jealousy of quacks, and the parsimony of country members, who could not see return for their money. He did this with equal good humor and skill, and was indefatigable in securing influences. Meanwhile the grass was not allowed to grow under his feet. Frequent lectures in country towns, personal inspections, unremunerated advice in the drafting of a town or the building of a house, sanitary service of every description more unofficial than official, but always unpaid, filled his days. The nights were devoted to keeping abreast of the line, studying what the sanitarians of England, of France, of Germany, and the boards of our own states had investigated and arrived at. And, when he rose, there were from twenty to thirty inquiring letters by mail that cried for answer. Thus went the first years of the board. It is natural that his private practice melted away under these conditions. But he never regretted it. The salary was but a pittance, it is true. Still an increase was hoped for, which would make it a respectable income. But when his best friends repeatedly urged the attempt, promising to further it with all their power, the doctor forbade, fearing that the prospects of the board might be endangered. And thus he served less liberally of late years, because the work had become systematized, the town authorities had acquired the habit, the cities had established health committees, and the people could see the intent and use of sanitation. And now, when the seed he sowed in sorrow is about to bring forth; when sanitation has passed into a new stage where its health guarantees, and its life saving powers are acknowledged and extolled, his busy hand is listless, and his strong brain without thought. He stood in sight of the promised land, whither he had conducted the people. The world sweeps on, and his work knows him no more.

Among the services he rendered to the profession of the State, his seven years' secretaryship of the Connecticut Medical Society, the executive office of the organization must not be forgotten. The task fell into his hands when accounts were disordered, arrears due, and a looseness of affairs predominant. He administered it skillfully, and left it in strictly good order.

Shortly after the doctor's accession to the Health Board, he

entered into professional relations with Dr. Jarvis, in whose house he located his office and living room. At first his participation in their general practice was quite large, but soon health matters and health studies absorbed his attention, and the connection was reduced to little more than consultations, and an occasional charge of Dr. Jarvis's patients. Nevertheless, this arrangement proved highly pleasant and very useful to both. Dr. Jarvis, who had grown up in medicine and surgery, until these were intuitions in him, a sort of second nature, and Dr. Chamberlain, who culled experiences from the records of all the world, tried and sifted them, and brought them under the focus of his logical analysis — these two complemented each other to a remarkable degree, and their united conclusions were of the highest value and significance. A mutual appreciation of each other's qualities, resulted in a profound respect and very sincere friendship.

Dr. Chamberlain, notwithstanding his theories and studies on a large scale, and their general application, was nevertheless an excellent practitioner. At the bedside, while bringing great principles into play, he gave a wonderful attention to details that concerned not only the treatment but the comfort of the patient. He even went further and could offer a scientific analysis of the case, and after precise directions for procedure, tender sympathy to comfort the patient. And it was sincere sympathy, for it displayed not alone at the bedside, but proved itself in the consultation chamber. As sanitarian, as physician, as a philosopher in medicine, and as a man, all honor is due to our deceased companion.

There is something more to say, perhaps the most important. Something of his brain qualities and something of his character. Something also of his habits. The first was remarkable in many ways, and may best demonstrate itself in his methods of work. Having begun with a subject, Dr. Chamberlain dug down to its deepest roots and followed to its utmost consequences. At such times the world was but a dream. One might call him out and converse with him, but the response came but from the inside. His mind remained fixed on the subject, and held it as one might hold a delicate mechanism with one hand and want off a fly with the other. Thus he read on uninterruptedly for three, four or five days, with but an occasional two hours sleep in his clothes, and feeding meanwhile from bags of apples, and cakes and candies at his bedside.

When the long study was over he made an accurate index of the meat of these treasury or dusty articles gone through in so many different works, and the results were photographed in his mind, concise and ready for use. He never met anything important in the course of his reading, or in the perusal of a periodical, or in a medical or scientific journal, but he would at once mark the place, and upon some haphazard scrap of paper make a note of it, and before he laid down that night the fact and the authority were classified and indexed. And thereafter he could pick them out in the dark. All his books are full of these indices, but his mind held the synopsis of his reading within easy reach at all hours and for every call. Not as one holds dead matter, but animated, passed into both sick blood, giving color to his ideas, strength to his thoughts. As a relief from these severe spells of study, the doctor turned to the very lighted literature, and the man who had but now been immersed in questions of the deepest importance would skim through the pages of a novel or series of the trashiest description. In both, his manner of reading was extraordinarily rapid, and he could seize all the salient points of a page, while another was still struggling with the first paragraph. His method of thinking was very strictly logical, and was capable of demonstration like a geometrical problem, clear, pointed, and short was the expression he lent to thoughts, novel and eminently practical the applications he suggested. When his lips opened the idea was finished, and the scheme ready to be turned to account.

The Doctor was scrupulously honorable in his dealings, professional and social, and ever endeavoring to be just to all. Beyond that, there was great kindness and helpfulness to him, and a certain ease and softness of disposition which was almost womanly. Perhaps the early and constant association with his mother instead of the boys, had preserved this charming trait. His religious convictions were brought from the home ready-made, with abundance of Bible knowledge. But they never quickened into an active and living influence. He was satisfied that they were there, as one is satisfied with the rose on one's face. And he always exhibited the widest toleration for other beliefs, discerning their common foundation. His personal reserve was absolute, very thin but very impenetrable was the screen which surrounded his inner self, and so hardly any had as opened the door and granted a glance within. But the respect which his mind and character commanded

was with that acute direct attitude unasked, even for his own advantage.

This characteristic isolated him during most of his life, and his habits were an outcome of it. Very neglectful in dress and altogether careless of appearances, he often presented a picture extremely annoying to his friends. But Dr. Chamberlain gave twenty dollars readily for a book and begrudged five for a garment; money paid for clothes always seemed wasted to him. And yet he was far from saving in pecuniary matters—indeed rather generous. It has been mentioned how he half fasted while studying. When such a time was over he became an voracious eater, and took great pleasure in it. He delighted in music and dramatic entertainments, without applying a high standard of taste to their selection, and could witness a ball game or take a hand in what with much satisfaction.

During his last years the long watches over books had engendered a habit of sleeplessness, which the doctor endeavored to overcome by the use of narcotics. And this grew to be a strong habit, to some extent a controlling force in his life. But nature too severely tried *ex sepe* to call the balance, and enforce a settlement. The benefit of his extreme efforts came to the community in his work on the Board of Health, while the penalty fell on himself. It is well to remember that.

With profound affection for his person, and great admiration and reverence for his gifts and labors, but with a contempt of the *ad viam hominem* method, I have endeavored to give a picture of this remarkable man. Where there are lights there must be shadows, and when one has lived a pure, blameless, and kindly life, where one has borne a great load of labor, and brought about high and useful results, there is no necessity of tampering with either. He did the foremost work of his generation, and immeasurably advanced the knowledge of medicine, and the practice of sanitation in his State, and of him we might say with Schiller

"He who suffered the tasks of his own time,
He has advanced the work of all the ages."

ELI WARNER, M.D., HARTFORD.

By W. A. M. WAINWRIGHT, M.D., HARTFORD.

Eli Warner, M.D., was born in Ellington Conn., March 24, 1842. His parents dying when he was quite young, he was placed under the guardianship of Mr. Edward Hall, who at that time kept a quite celebrated school for boys in Ellington. Here Dr. Warner completed his early education. In the fall of 1861 he went to Elmira, N. Y., and entered a bookstore in the capacity of clerk. He did not, however, find this position congenial to his tastes, so after a few months he returned to Ellington. Soon after, upon the advice of Mr. Hall, who had seen in Dr. Warner traits of character which led him to think that medicine was his calling, he decided to devote himself to the study of that science, and entered the office of Dr. S. G. Risley of Rockville, Conn. His first course of lectures was taken at the Berkshire Medical School, Pittsfield, Mass. He then went to New York, and matriculated at the College of Physicians and Surgeons, receiving his degree of Doctor of Medicine from that institution in the spring of 1867. Shortly after his graduation he became an interne in the Lunatic Hospital on Blackwell's Island, New York City, and remained there about one year. In the fall of 1868, he was appointed assistant physician to King's County Lunatic Asylum at Flatbush, L. I. He resigned this position in the spring of 1871. In the fall of the same year he settled in Hartford, where he continued in private practice until his death, which occurred on the 28th of May, 1884. Dr. Warner was never very robust, and several years before his death he developed signs of phthisis pulmonalis which steadily progressed; giving rise, in the last year or two of his life, to severe hemorrhages and finally to a state of exhaustion from which he was not able to rally. Dr. Warner was married November 29, 1872, to Miss Sarah Simonds of Shelburne, Vermont, who, with two children, aged respectively twelve and ten years, survives him. As a physician, Dr. Warner was thoroughly educated, well skilled in practice, and sound in judgment. As a man, he was gentle, upright, kind, and always courteous, possessing many traits of character which endeared him to his friends, and gained the respect of the community in which he lived.

GEO. W. EDWARDS, M.D. GRANBY

By WM. WOOD, M.D. EAST WINDSOR HILL.

Geo. W. Edwards was born in New York City, Oct. 12, 1816. He received a classical education at private schools and the University of New York City. He spent the three or more following years in foreign travel (visiting Brazil, England, France, Italy, etc., also spending several months in Australia, &c.), and returning home in 1838 he commenced the study of medicine. He attended lectures one year at the College of Physicians and Surgeons. While a student he served one year on the resident staff of the Bellevue Hospital.

In March, 1862, he received his degree as Doctor of Medicine from the University of New York City, and two months later, entered the Union Army as a surgeon. He was assigned to the U. S. hospital then opened at David's Island, off New Rochelle, N. Y., where he remained until the close of the war. He was then attached to the "Freedmen's Bureau," and served in the South till the medical department of the Bureau was discontinued in 1869, at which time he held the position of Surgeon-in-Chief for the State of Florida. He soon came to Granby for a few weeks only, but continued there until his death. He had not been well for several years, but practiced in his profession until two weeks previous to his death, though he showed his vigor gradually for three years, from increasing weariness. He was confined to the bed about ten days.

His disease was Bright's disease. His death occurred October 5, 1884. He leaves a wife and two young sons, aged nine and seven years.

AMBROSE BEARDSLEY, M.D., BIRMINGHAM

By C. E. FISNEY, M.D. BIRMINGHAM.

Ambrose Beardsley was born in Monroe, Conn., where his boyhood was spent, dividing his time between the common school in the neighborhood, and the duties and labors of the farm. His young and active mind very soon absorbed all his early teachers

were able to impart to him, and before he was twenty he taught several terms in the schools where he had himself so recently been a pupil. He added to his common school education a fair knowledge of the Latin language, and having decided to make the possession of medicine his life work, he studied a short time with Dr. McMillenback of Monroe, but soon returned to Redding, and entered the office of Dr. Charles Gorham, at that time one of the most popular physicians in that part of Connecticut.

Dr. Boardley, during all the remaining years of his life, entertained the greatest respect for the memory of his early instructor in his profession, and frequently quoted his sayings as an authority in practice until his death.

He afterwards attended two courses of lectures at Pittsfield, Mass., graduating there in 1834. He located in Newtown, Conn., where he remained a little more than one year, when he removed to Birmingham, then an obscure village where he commenced in earnest his life work, and where he labored uninterruptedly for almost half a century.

I may truly say uninterruptedly, for Dr. Boardley took no vacation. He was a man of immense industry. The writer knew him intimately for more than thirty one years, and can testify that during all that period he was never absent from town but once, and then for less than one week during the War of the Rebellion on some business for the sanitary commission. He was ever at his post, night and day, manifesting a degree of courage and endurance which shamed younger men when they complained of fatigue and loss of rest. He never complained of his laborious life or any of its disappointments. As old age began to steal over his sweet and active frame and his friends noticed the checkered pace and altered step, he always insisted that he was "all right" and never better able in his life to work than now. He loved his professional duties, and the thought of abandoning them was painful in the extreme. He never seemed so happy or so much at home as when at the bedside of the sick. He was untiring in his devotion to his patients to the last, but never seemed to realize that his own health required some of his decreasing strength a little repose. After he was seventy years old he often stayed the entire night with his patients in places where there were very few comforts.

Once he remained with a patient three days and nights, all the time suffering himself severely with asthma, when he did not take

even a lounge to rest upon, and the only sleep he obtained was sitting in a chair, resting his arms on a flour barrel, and his head on his arms. He never received one cent for attending the case, and could not have expected compensation at the time.

While not lacking in spirit, he was a man without resentments. Under provocation he could ably defend himself, but he did not harbor grudges, and when next he met his opponent he was ready to grasp his hand in friendship, forgetting the bitterness of yesterday.

Dr. Beardsley wielded a facile pen. The columns of our local papers were often enriched by his historical and personal sketches, and few could write an obituary notice of our old people, as they one after another passed away, in so kind and pleasing a manner as he.

A few years before his death he published a History of Derby, for which he had been collecting material many years. Although like most of his ventures, this work was not profitable, it will serve to keep his memory green for many generations.

Like many others in our profession he was not a successful financier. If he had sufficient for his present necessities he was content. I need not say, therefore, that he was not rich in money at his death, and that he left his family but little of this world's goods. He did die rich in the love, sympathy and esteem of all his fellow citizens, old and young, rich and poor. He was a kind husband, a loving, indulgent father, a generous neighbor. He was eminently social, and prized more the respect and confidence of his townsmen than either wealth or luxury. He was fond of public office. He was many times warden of the borough of Birmingham, and registrar of vital statistics, most of the time for nearly thirty years. He was a fluent speaker, on most all public occasions. "The Doctor" was present, and a speech from him was a part of the regular programme. He was often very happy in these efforts.

For two years previous to his death he had been in failing health, but continued to practice until three weeks before he died. His family and friends urged him to abandon his office and remain at home, but he could not be persuaded to do so until absolute inability to get there kept him away.

He seemed to feel after he took to his bed for the last time that the care and responsibility of all the borough affairs, and a large list of patients still rested upon him. The burden of care which

he had suffered so long he seemed unable to lay down, until death relieved him of it. His last hours were comparatively free from suffering, and he sank quietly to the rest which knows no awakening.

In April, 1837, he was married to Mary Bossett, daughter of Samuel Bossett, Esq., of Seymour. His wife survives to mourn his loss. Also an only son, Capt. A. E. Beardsley of Birmingham. His only daughter married Dr. T. B. Jewett, but died at her father's residence in 1881.

The physicians of Derby and Shelton met on the evening following the death of Dr. Beardsley and passed the following resolutions:

At a meeting of the physicians of Derby and Shelton held Thursday evening, October 30th, to take action on the death of Dr. Ambrose Beardsley, the following resolutions were offered by Dr. George L. Beardsley, and adopted:—

Whereas, The great Reaper has entered our fold and harvested the ripened grain, removing one whose worth was never fully appreciated, whose vigour, as a student of health and enterprise as a citizen was unimpaired, whose usefulness even advanced, to health, and declining years did not cause to wither:

Resolved, That in the death of Dr. Ambrose Beardsley the physicians of Derby and Shelton mourn the loss of a genial companion, a wise counselor, a judicious practitioner, a valuable contributor to medical literature.

Resolved, That while we grieve that he, who has so assiduously and cheerfully served his nation in this community for fifty years, is now silent to our call, and can never again join us in combats with ruthless pains and angry fever, yet in the coming years constant reassurance will be his victories over disease, his faithfulness to the suffering, his charity for the unfortunate, his hatred of expedients, and loyalty to the interests of our profession, his gentlemanly demeanor and moral dignity.

Resolved, That in this hour of bereavement we confess the death of words to rightly convey to the family the loss we feel, with them, and kindly bid them lean on the hope that the "bender by Genesaret" may weep the funeral that death this day has made.

Resolved, That in the deference to their wishes for the deceased the physicians of the town of Derby and Shelton attend the funeral, as an association.

Resolved, That a copy of these resolutions be presented to the family, and that the same be published in the Derby Transcript and Nantahoke Valley Sentinel.

The day of his funeral was an occasion of general mourning, almost every place of business was closed in the borough of Der-

Birmingham, and all classes of citizens gathered at the home to pay the last tribute of respect to their departed friend and loved physician. A long line of real mourners followed the remains to the Birmingham cemetery, where a large concourse of people were waiting around his open grave.

In a beautiful spot overlooking the valley of the Besantone, and in the village he loved so much, was laid with loving hands all that was mortal of Dr. Andrews Bourdley.

A. H. ABERNETHY, M.D., BRIDGEPORT.

By BRUCE W. MYRON, M.D., BRIDGEPORT.

Doctor Augustus Huggins Abernethy, son of Judge R. S. and Charlotte M. Abernethy, was born in Litchfield Conn. May 21, 1828. In 1848 Judge Abernethy and family removed to, and settled in Bridgeport, where the survivors now reside.

Dr. Abernethy began his medical studies under the supervision of Dr. Robert Bulford, early in 1848, but was forced to interrupt them for nearly a year, because of the appearance of a growth in the right orbital cavity. Under the advice, among others, of his uncle, the late Dr. John Abernethy, U. S. N., the growth, which proved to be a simple cyst, was removed, and the pursuit of his studies resumed. About this period Dr. Bulford became Surgeon of the 17th Conn. Vols., and left Bridgeport for the seat of war, and young Abernethy entered the office of Drs. Jenett and Townsend at New Haven. Here, and at Yale Medical College, he pushed forward until he was graduated in 1854. Entering the U. S. Navy, he was assigned to duty on the U. S. S. "Porpoise," and stationed at Charleston, South Carolina, until mustered out of service. In 1860 Dr. Abernethy returned to, and settled in, Bridgeport and practiced his profession the remainder of his life. In 1874, Dr. Abernethy married Miss Henrietta Stage of Stratford. The ceremony took place September 16th, at Irvington-on-the-Hudson. Three children, a son and two daughters, was the fruit of the union. They are living and well.

By his attention to the duties thereof, Dr. Abernethy acquired an extensive practice. By his gentleness of demeanor, and his

uprightness of character; he made a host of friends. By his charity—but let the spectators of the walks in the vicinity of the church where the funeral service was held, *crowded with the sorrowing poor*, speak of his charity! As a citizen Dr. Abernethy was honored by his fellows, and had represented them in the legislature; he served as a member of the Board of Education, and once narrowly escaped being mayor of the City of Bridgeport. In the profession Dr. Abernethy stood high, and had been chosen as one of the consulting staff of the Bridgeport Hospital. He was also a member of the Board of Health.

Dr. Abernethy's death took place November 9, 1881, at the age of 64 years; and, though not wholly unexpected by his professional friends well acquainted with him and his condition, was sudden, and the community was shocked thereby. The illness which caused his death was capripneumonia, from which he had suffered more than two years. The Doctor's family life was a happy one, and great indeed is the loss of those he left behind him. A humble but sincere Christian, he heard and obeyed the call to "the better life" cheerfully.

O. S. HICKOK, M.D. RIDGEFIELD.

By A. E. HANSEN, M.D., BETHEL.

Dr. Hickok was born in Bethel, Conn. Dec. 9, 1841, and died April 4, 1885, of Bright's disease.

He was the youngest of seven children of Timothy H. and Esther G. Hickok, only three living to years of maturity, and in the last of the three to be called away by death.

It being the wish of his parents that he should enter the ministry, he went to commence preparatory studies with his uncle Rev. L. P. Hilditch, D.D. (now of Amherst, Mass., the only brother of his father). But, owing to a severe hemorrhage from the lungs, he was compelled to return to his home, and after that his mind was turned toward the profession of medicine. As soon as he was able, he commenced the study with Dr. Clark of Bethel, and after attending one course of lectures at Yale Medical College, he attended one at the Berkshire Medical College, Pittsfield, Mass., where he grad-

uated in November, 1854. Soon after this he located in Portsmouth, Ohio, where he remained but a few years, and in January 1860 he went to Bridgefield, and succeeded Dr. C. H. Kendall, for a while boarding in his family and occupying his office.

April 3, 1874, he married Miss Allie C. Shewen, a native of that town, who survives him (they never having had any children).

And, as the writer of this sketch attended one course of lectures with the deceased, he can certify to his genial and social disposition, and from one in the place where he lived and died, I quote this:

"He justly had the reputation of being ready to comply with any summons, from rich or poor, day or night, rain or shine, near or far, when his health permitted."

His funeral was attended in Bridgefield, and the remains brought to Bethel for interment beside his parents and other relatives.

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Evelyn L. Russell,
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Arthur Reichardt,
Willa G. Allen,
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William C. Holmes,
F. M. Cannon,
Charles H. French,
Charles S. Robinson,
J. M. Beardsley,
Thos. L. Astle.

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NEW LONDON COUNTY.

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A. Peck, M.D., of Norwich, Clerk.

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F. N. Barnes,
J. G. Stanton,
A. T. Douglas,
F. J. Beckwith.

FRANKLIN:

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GROTON, Mystic River:

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LANSING:

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E. P. Bowser,
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Romain Robinson,
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SENIORITY:

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Earl Montross.

YANTIC:

Eliza Phinney.*

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Andrew J. Smith.

Geo. F. Lewis.

James R. Cummings.

George L. Foster.

Robert Leland.

Frederic J. Young.

Charles H. Bell.

S. E. Hendon.

G. M. Treple.

Chas. W. Shaffery.

F. M. Wilson.

T. P. Martin.

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F. B. Downs.

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Edward D. Nooney.

W. B. Cogswell.

STAMFORD

H. P. Galt.

Henry Hungerford.

A. M. Harburt.

H. L. Robinson.

C. S. Davis.

Samuel Phipps.

STURGEON

Seth Hill.

WATERLOO

F. Gorton.

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STELLA:
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SMITH HOOK:
Wm. C. Wile,
Anna P. Smith.
WILSON:
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A. B. Gorham.

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WINDHAM COUNTY.

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PUTNAM:
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John B. Kent,
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F. N. Bancroft,
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Frank S. Orr.

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Farnham O. Bennett,
T. H. Parker.

WATERBURY:
W. H. Jackson.

WOODSTOCK:
E. E. Gaylord.

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* Over sixty years of age.

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NORFOLK.

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Jas. C. Kendall.

THAMSTON.

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BROOKLYN.

Myron Downs.*

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W. Blood.

R. P. Knight.

SHARON.

William W. Knight.

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John B. Derricksen.

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Eugene C. Potch.

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James Walsh.*

John W. Bulwell.

WOODSTOCK.

Harmon W. Moore.

L. T. Ketchum.

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J. FRANK CALLEY, M.D., of Orono, Clerk.

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Geo. W. Burke,*

Darius Baker,*

F. D. Edgerton.

Abraham M. Shaw.

Jos. W. Alcott, Jr.,

Donald A. Cleveland,

Jas. O'Hara,

Wm. K. Fisher.

* Over sixty years of age.

C. E. Munsey,
P. V. Bassett,
J. N. Kestler,
H. S. Sells.
CUMMINGS, Middle Hampton:
Albert B. Worthington.*
East Hampton:
Albert Field.
CHATEAU:
Sylvester W. Turner.*
CHOWELL:
Walter D. Bullock,
J. Francis Calk.
DUNHAM:
R. W. Mathewson.*
EAST:
Alfred A. Bough,*
Charles H. Hubbard,
Willis A. Russell.

HARDHAM:
Miner C. Hays,
Solomon C. Noyes.
EAST HARDHAM:
E. H. Edgell.
EMERSONWORTH:
Dr. Nichols.
MONTZ:
Wallace M. Knowlton.
OLD SATIMON:
J. H. Greenleaf.
PORTLAND:
C. A. Sears,
Cornelius E. Harnwood.
SATIMON, Deep River:
Edwin Edgell.*
WATERMAN:
G. C. H. Gilbert,*
T. B. Riverfield.

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TOLLAND COUNTY.

C. F. SUMNER, M.D., of Bolton, President.

WILLIAM H. CLARK, M.D., of Tolland, Clerk.

GRASSLANDS — C. F. SUMNER, M.D., E. P. FLETCHER, M.D., P. L. SARRIS, M.D.

GRASSLAND REPORTER — S. G. HALEY, M.D.

TOLLAND:
William H. Clark.
BOLTON:
CHARLES F. SUMNER.*
ELLINGTON:
J. A. Warren.
MANSFIELD:
P. E. Johnson.
NORTH COUNTRY:
Wm. C. Hays.
SOUTH COUNTRY:
Henry S. Dean,*
E. P. Fletcher.
STAFFORD:
Wm. N. Clark.*

Stafford Springs:
C. B. Newton,
P. L. Sarris.
VICTORY, Victory Depot:
A. R. GOODRICH.*
ROCKVILLE:
Stephen O. Raley,*
Francis L. Dickinson,*
Frederick Gilman,
E. K. Leonard,
T. P. Rockwell,
Fred. Walsh.
WATERMAN:
W. V. Wilson.

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*Over sixty years of age.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY.

With Date and Place of Graduation, and Post-office Address.

Name	Place and Date of Graduation	P. O. Address
Adams, A. E.	Albany, 1881.	Hartford
Adams, A. E.	Col. Phys. and Surg. 1880.	Danbury
Allen, Charles N.	Burlington, 1861.	Middletown
Allen, H. O.	Univ. N. Y., 1873.	Brookbrook
Allen, Hall	Univ. N. Y., 1871.	Millard
Alting, W. G.	Yale, 1879.	New Haven
Almy, L. B.	Bellows, N. Y., 1870.	Newwich
Alsup, J. W., Jr.	Univ. N. Y., 1864.	Middletown
Alton, C. D.	Bellows, 1875.	Hartford
Arnsperg, C. H.	Col. Phys. and Surg. 1871.	Wallingford
Andrews, Wm. H.	Bellows, N. Y., 1871.	Millard
Andrews, Wm. H.	Univ. N. Y., 1882.	Brookfield
Avery, Geo. W.	Yale, 1862.	Hartford
Axtell, J. P.	I. I. Hosp. Coll., 1877.	Hartford
Axtell, Thos. L.	Bellows, 1860.	Waterbury
Ayrton, W. D.	Yale, 1864.	New Haven
Bacon, Francis	Yale, 1832.	New Haven
Bacon, Wm. T.	Univ. N. Y., 1871.	Hartford
Baker, Rufus	Columbia Coll., D. C., 1844.	Middletown
Baker, Scott R.	Yale, 1879.	Amenia
Baldwin, Chas. T.	Holl. Med. Coll., N. Y., 1868.	Birmingham
Baldwin, N. C.	Yale, 1837.	Southern Bridge
Banks, Geo.	Col. Phys. and Surg. 1864.	Danbury
Barks, Nelsensky	Yale, 1844.	Wallingford
Barber, W. L.	Bellows, 1870.	Waterbury
Barber, W. P.	Dorchester, N. H., 1859.	Lebanon
Barber, A. E.	Berkshire, Mass., 1854.	Bethel
Barlow, J. W.	Yale, 1860.	Westville
Barnes, Lewis	Univ. Buffalo, N. Y., 1853.	Oxford
Barnett, J. P.	Yale, 1869.	West Haven
Barrett, F. N.	Victoria, Montreal, 1860.	Plymouth
Barrows, A. W.	Yale, 1841.	Hartford
Bassett, Casper	Burlington, Vt., 1878.	Winsted
Bartlett, W. M.	Yale, 1871.	New Haven
Beebe, W. J.	Col. Phys. and Surg. 1867.	Litchfield

Name	Year and Date of Graduation	F. O. Address
Bendley, E. M.	Yale, 1842	Monroe
Bendley, G. L.	Bellerose, N. Y., 1877	Brimingham
Berkwith, P. E.	Coll. Phys. and Surg., 1871	New Haven
Berkwith, P. J.	Harvard, 1887	New London
Bekins, C. O.	Coll. Phys. and Surg., 1883	Litchfield
Bell, Newton S.	Burlington, Vt., 1861	Windsor
Bellows, P.	Yale, 1872	New Haven
Benedict, Rev. W.	Coll. Phys. and Surg., 1872	South Norwalk
Benedict, J. M.	Yale, N. Y., 1892	Waterbury
Bennett, F. O.	Berkshire, 1815	Williamsville
Bennett, M. D.	Berkshire, 1808	School
Bennett, W. C.	Coll. Phys. and Surg., 1860	Danbury
Berwell, Edwin	Yale, 1847	Drop River
Bidwell, E. H.	Dorchester, 1882	East Haddam
Bidwell, John W.	Berkshire, 1846	West Windsor
Bill, Curtis H.	Yale, N. Y., 1889	Bridgport
Bishop, E. H.	Yale, 1829	New Haven
Bishop, T. H.	Yale, 1860	New Haven
Biswell, E. L.	Yale, 1860	New Haven
Bissell, William	Yale, 1856	Lakeville
Blake, C. L.	Yale, 1875	Northfield
Blackwell, T. B.	Coll. Phys. and Surg., 1876	Westbrook
Blackman, R. L.	Yale, N. Y., 1854	Hamden
Black, Jas. C.	Vermont Med. Coll., 1843	Hartford
Borron, Geo. R.	Yale, 1856	Winsted
Bowers, W. C.	Coll. Phys. and Surg., 1872	Bridgport
Bracken, H. M.	Coll. Phys. and Surg., 1877, L. R. C. S., Edinburgh, 1878.	Thompson
Bradford, E. T.	Coll. Phys. and Surg., 1872	Meriden
Bradley, W. L.	Yale, 1864	New Haven
Braun, P. S.	Bellerose, 1860	New London
Brayton, Charles N.	Coll. Phys. and Surg., 1875	Stonington
Brecher, E. P.	Dorchester, 1878	Norwich
Brentley, David T.	Yale, 1867	Hartford
Brown, Henry	Yale, 1812	New Haven
Brown, Orlando	Yale, 1851	Washington
Brown, W. T.	Harvard, 1869	Lisbon
Brownson, Wm. G.	Coll. Phys. and Surg., 1865	New London
Buel, Henry W.	Coll. Phys. and Surg., 1867	Litchfield
Bull, J. N.	Coll. Phys. and Surg., 1828	Plainville
Bunce, H. C.	Yale, 1866	Glastonbury
Bunsell, W. H.	Coll. Phys. and Surg., 1873	Bridgport
Burham, Wm. M.	Georgetown D. C., 1865	Hartville
Burke, Geo. W.	Yale, 1847	Middletown
Burke, Wm. C., Jr.	I. J. Coll. Hosp., 1873	South Norwalk
Burnap, N. M.	Coll. Phys. and Surg., 1869	Windsor Locks
Burnett, P. V.	Yale, N. Y., 1876	Middletown
Burnitt, A. H.	Yale, 1867	Southington
Burwell, Jerry	Berkshire, 1819	New Hartford
Bush, Geo. M.	Yale, 1882	New Haven
Butler, John S.	Jefferson, Pa., 1825	Hartford
Cahot, J. P.	Yale, 1886	Cromwell
Camp, C. W.	Yale, N. Y., 1874	Attauit
Campbell, Jas., Jr.	Yale, Vermont, 1871	Hartford
Cannon, F. M.	Yale, N. Y., 1867	Waterbury
Carlson, Charles M.	Harvard, 1860	Norwich
Carmel, W. H.	Coll. Phys. and Surg., 1862	New Haven

Names	Place and Date of Graduation	P.O. Address
Carrington, Charles	Coll. Phys. and Surg., 1848.	Farmington
Carrington, Henry A.	Harvard, 1848.	New Haven
Cassidy, Patrick	Yale, Vassar,	North
Cassie, P. E.	Yale, 1850.	Waterbury
Castroblanco, M. N.	Yale, 1880.	Cheshire
Causton, P. W.	Univ. N. Y., 1885.	Pondent
Chapman, A. T.	Coll. Phys. and Surg., 1864.	Myrtle
Chapman, S. B.	Coll. Phys. and Surg., 1869.	New Haven
Child, E. M.	Univ. N. Y., 1877.	Morden
Childs, Seth L.	Woodstock, Vt., 1855.	East Hartford
Churchill, Asa H.	Yale, 1857.	Middleton
Clark, F. I.	Univ. Vermont, 1866.	Norwalk
Clark, F. P.	Coll. Phys. and Surg., 1875.	Danbury
Clark, William H.	Univ. N. Y., 1882.	Fairfield
Clark, Wm. S.	Yale, 1850.	Stafford
Clason, A. F.	Univ. N. Y., 1873.	Danbury
Clary, George	Yale, 1877.	New Britain
Cleveland, D. A.	Rowden, Me., 1866.	Middlebury
Cochran, E. V.	Yale, 1840.	Myrtle Bridge
Coffey, Frank A.	Coll. Phys. and Surg., 1905.	Myrtle Bridge
Cogswell, W. B.	Bellevue, 1882.	Stamford
Coleman, M. I.	Univ. N. Y., 1865.	New Britain
Coatman, B. N.	Castleton, Vt., 1845.	New Britain
Conklin, W. H.	Univ. N. Y., 1892.	Amelia
Coogan, Joseph A.	Bellevue, N. Y., 1876.	Hartford
Cornwall, E. T.	Coll. Phys. and Surg., 1861.	Cheshire
Couch, Charles F.	Berkshire, 1880.	Guylfordville
Covey, David	Castleton, 1854.	Hartford
Covey, David, Jr.	Yale, 1865.	Hartford
Crow, C. V. R.	Yale, 1857.	New Haven
Crosby, L. M.	Univ. N. Y., 1891.	New Britain
Crosby, M. A.	Coll. Phys. and Surg., 1874.	New Haven
Crosby, Noah	Berkshire, 1862.	Hartford
Crookfield, F. S.	Bellevue, 1878.	Hartford
Cuthbert, T. D.	Albany, 1865.	Hartford
Cummings, Jas. R.	Coll. Phys. and Surg., 1862.	Bridgewater
Cummings, Willis	Univ. N. Y., 1882.	New Canaan
Darwin, David L.	Yale, 1841.	New Haven
Darby, C. S.	Charleston Med. Coll., 1860.	Stamford
Darling, A. E.	Harvard, 1872.	Wallingford
Davis, C. H. S.	Univ. N. Y., 1855.	Morden
Davis, E. H.	Burlington, N. J., 1872.	Mossup
Davis, G. P.	Coll. Phys. and Surg., 1869.	Hartford
Davis, H.	Yale, 1845.	Wallingford
Davison, L. A.	Univ. N. Y., 1868.	Hartford
Day, L. Y.	Yale, 1860.	Westport
DeForest, Wm. B.	Yale, 1840.	New Haven
Dean, H. S.	Jefferson, 1882.	South Coventry
Deming, Ralph	Yale, 1857.	Stamford
Deming, Wm.	Yale, 1838.	Litchfield
Deming, Wm. C.	Coll. Phys. and Surg., 1864.	Litchfield
Deming, John B.	Jefferson, 1856.	Warren
Dexter, Frederick L.	Yale, 1838.	New Haven
Dickinson, F. L.	Yale, 1860.	Rockville
Delaney, J. J. S.	Univ. N. Y., 1874.	New Haven
Deming, Wm. H.	Univ. N. Y., 1860.	Fairfield
Dexter, A. T.	Univ. N. Y., 1849.	New London

Name	Place and Date of Graduation	P. O. Address
Douglas, Henry	Yale, 1879	Meriden
Dowse, F. B.	Coll. Phys. and Surg., 1878	Eastford
Drew, Myron	Yale, 1868	Eastford
Dunham, M. V. B.	Harvard, 1867	Greenfield Hill
Dwyer, John	Univ. N. Y., 1871	Hartford
Ebert, Arnold	Hartmouth, 1878	Stamford
Edgerton, Francis D.	Coll. Phys. and Surg., 1861	Wadsworth
Eggleston, J. D.	Coll. Phys. and Surg., 1879	Meriden
Elliott, Gustavus	Coll. Phys. and Surg., 1880	New Haven
Ellsworth, P. W.	Coll. Phys. and Surg., 1879	Hartford
Engle, R. E.	Albany, 1868	Berlin
Estley, J. F.	Univ. Mich., 1873	Waterbury
Fairbanks, Geo. B.	Yale, 1869	New Haven
Ferris, Arno J.	Warren's Med. Coll. Pa., 74	Meriden
Fidd, Albert	L. I. Coll. Hosp., 1867	East Hartford
Finch, Geo. T.	Bellows, N. Y., 1877	Thompsonville
Fisher, Wm. F.	Univ. Pa., 1874	Middletown
Fisher, L. P.	Yale N. Y., 1875	Southington
Fitch, C. L.	Dartmouth, 1861	New Haven
Fischelner, Henry	Yale, 1878	New Haven
Fitz, E. P.	Yale, 1879	Scot's Coventry
Ford, Wm. J.	Univ. N. Y., 1864	Washington
Forster, J. P. C.	Yale, 1873	New Haven
Foster, Warren H.	Harvard, 1882	Princeton
Fox, Charles A.	Coll. Phys. and Surg., 1861	Hartford
Fox, Charles J.	Univ. N. Y., 1878	Williamantic
Fox, Edw. G.	Univ. N. Y., 1880	Wethersfield
Fox, Brewster	Univ. N. Y., 1847	Wethersfield
French, E. C.	Ann Arbor, 1882	Waterbury
French, Charles H.	Bellows, 1880	Waterbury
Frost, C. E.	Copenhagen, 1870	Hartford
Frost, C. W. S.	Coll. Phys. and Surg., 1880	Waterbury
Fulter, Horace S.	Coll. Phys. and Surg., 1865	Hartford
Gallik, S. M.	Harvard, 1877	Bridgeport
Gates, H. E.	L. I. Coll. Hosp., 1861	Eastford
Gaylord, C. W.	Yale, 1872	Eastford
Gaylord, E. E.	Yale, 1878	Woodstock
Gels, H. P.	Bellows, 1860	Stamford
Gibbons, T. P.	Jefferson, 1867	New Haven
Gilbert, G. C. H.	Yale, 1843	Westbrook
Gilbert, L. M.		New Haven
Gilbert, S. D.	Yale, 1871	New Haven
Gilbert, Geo. A.	Coll. Phys. & Surg., N. Y., 83	Durham
Giback, F.	Coll. Phys. and Surg., 1867	Rockville
Gladwin, Ellen P. H.	Warren's Med. Coll., N. Y., Durham, 1872	Hartford
Gladwin, C. F.	Dartmouth, 1883	Bridgeport
Goodrich, A. H.	Dartmouth, 1845	Vernon
Goodwin, R. S.	Coll. Phys. and Surg., 1868	Thompson
Goodyear, H. B.	Yale, 1866	North Haven
Garham, A. S.	Yale, 1876	Willow
Garham, F.	Yale, 1876	Wilton
Granger, John H.	Yale, 1868	Old Saybrook
Graves, Thomas	Harvard, 1870	Danburyville

Name	Place and Date of Graduation	P. O. Address
Gray, Henry	Dartmouth, 1847.	Bucksford
Gray, John	Yale, 1882.	Myrtle Street,
Gregory, James G.	Coll. Phys. and Surg., 1868.	Norwalk.
Giffith, E. D.	Coll. Phys. and Surg., 1855.	Old Lyme.
Griggs, E. L.	L. I. Coll. Hosp., 1881.	Waterbury
Griggs, O. W.	Univ. N. Y., 1847.	Wilmington.
Grinstead, J. E.	Univ. N. Y., 1878.	Glastonbury.
Grissold, E. M.	Univ. N. Y., 1878.	North Manchester.
Grimm, E. W.	Coll. Phys. and Surg., 1851.	Rocky Hill.
Hallack, William B.	L. I. Coll. Hosp., 1864.	Channah
Hammond, C. E.	Univ. N. Y.	Portland.
Hammond, Henry F.	Harvard, 1866.	Killingly.
Hansbatt, T. S.	Bellows, N. Y., 1864.	Torington.
Hartman, Patrick	Univ. N. Y. 1884.	Norwich.
Harris, G. W.	Coll. Phys. and Surg., 1837.	Old Lyme.
Harrison, B. F.	Yale, 1836.	Wall Hartford.
Hart, E. W.	Yale, 1835.	New Britain.
Hartings, F. M.	Coll. Phys. and Surg., 1842.	Hartford.
Hawkes, H. W.	Yale, 1881.	New Haven.
Hayes, Wm. C.	Univ. N. Y., 1877.	North Country.
Hazen, M. C.	Dart. Michigan, 1855.	Haddam.
Hendy, E. R.	Yale, 1872.	Milford.
Hewsey, A. G.	L. I. Coll. Hosp. Coll., 1876.	Thomaston.
Hibbard, Nathaniel	Harvard, 1862.	Danburyville.
Higgins, R. L.	Bellows, 1867.	Norwalk.
Hill, E. A.	Harvard, 1859.	East Killingly.
Hill, Chas. E.	Harvard, 1878.	East Killingly.
Hills, J. M.	Yale, 1863.	Wilmington.
Hill, Seth.	Yale, 1868.	Seymour.
Holmes, A. A.	Harvard, 1868.	Bridgeport.
Holmes, George J.	Albany, 1862.	New Britain.
Holmes, Wm. C.	Coll. Phys. and Surg., 1866.	Waterbury.
Holmes, W. H.	Harvard, 1874.	Waterbury.
Holbrook, Lewis	Univ. N. Y., 1848.	Thompson.
Horne, W. W.	Univ. N. Y., 1858.	Uncasville.
Hoschkins, W. H.	Yale, 1872.	New Haven.
Hough, A. A.	Yale, 1833.	Essex.
Hough, H. W.	Yale, 1836.	Putnam.
Howard, John	Dartmouth, 1880.	Hartford.
Howe, H. G.	Coll. Phys. and Surg., 1825.	Hartford.
Hawland, C. B.	Yale, 1860.	Morris.
Hubbard, C. H.	Yale, 1860.	Essex.
Hubbard, Edwin	Yale, 1831.	Bridgeport.
Hubbard, Stephen G.	Dartmouth, 1841.	New Haven.
Hudson, Wm. M.	Jefferson, 1853.	Hartford.
Hughes, O. J. D.	L. I. Coll. Hosp., 1875.	Martford.
Hughes, Henry	Coll. Phys. and Surg., 1860.	Stamford.
Hull, E. K.	Jefferson, 1838.	Hartford.
Huntington, S. H.	Yale, 1876.	Willam.
Hurlbut, A. M.	Coll. Phys. and Surg., 1879.	Stamford.
Hutchins, Samuel	Harvard, 1841.	Danburyville.
Ingham, P. H.	Coll. Phys. and Surg., 1886.	Hartford.
Ives, Levi	Yale, 1838.	New Haven.
Ives, Robert S.	Coll. Phys. and Surg., 1860.	New Haven.
Jarvis, Geo. C.	Univ. N. Y., 1861.	Hartford.
Jennings, G. H.	L. I. Coll. Hosp., 1876.	Jewett City.

NAME	PLACE AND DATE OF STUDYING	P. O. ADDRESS
Jewett, J. W.	Univ. N. Y., 1881.	New Haven.
Jewett, T. B.	Yale, 1879.	Birmingham.
Johnson, D. D.	Univ. N. Y., 1881.	New Britain.
Johnson, M. M.	Univ. N. Y., 1877.	Hartford.
Johnson, S. C.	Conn. Med. Soc., 1925.	Seymour.
Johnson, P. E.	Univ. N. Y., 1879.	Middletown.
Judson, Walter.	Coll. Phys. and Surg., 1870.	New Haven.
Julian, W. H.	Jefferson, 1878.	Wallington.
Kendall, John C.	Coll. Phys. and Surg., 1875.	Norfolk.
Kendall, Joshua T.	Coll. Phys. and Surg., 1825.	Seymour.
Kennister, J. S.	Harvard, 1872.	Middletown.
Kest, J. H.	Harvard, 1880.	Pittsford.
Ketchum, L. Y.	Univ. Vt., 1886.	Woodbury.
Kimsey, E. C.	N. Y. Med. Coll., 1828.	Norwich.
Knight, R. P.	Coll. Phys. and Surg., 1889.	Lakeville.
Knight, W. W.	Berkshire, 1868.	Sharon.
Knight, W. W.	Univ. N. Y., 1878.	Hartford.
Krawchen, W. M.	Univ. Vt., 1880.	Middletown.
Lacey, Wm. F.	Yale, 1844.	Bridgport.
Lambert, B. L.	Univ. N. Y., 1881.	New Haven.
Lander, Robert.	Yale, 1871.	Bridgport.
LaPierre, John.	Bellows, 1871.	Grotonville.
Laffan, Omer.	Victoria, Montreal, 1871.	Pittsford.
Lalor, A. A.	Bishops Coll., Montreal.	Grotonville.
Lambert, A. W.	Yale, 1879.	New Haven.
Leavenworth, D. C.	Yale, 1863.	New Haven.
Leonard, E. R.	Conn. Med. Soc., 1886.	Rockville.
Lewis, B. S.	Harvard, 1875.	New Haven.
Lewis, G. F.	Yale, 1850.	Bridgport.
Lewis, G. F.	Yale, 1864.	Colchester.
Lewis, John B.	Univ. N. Y., 1853.	Hartford.
Lewis, Wm. A.	Harvard, 1851.	Wallington.
Lewis, Wm. J.	Coll. Phys. and Surg., 1878.	Hartford.
Lindsay, C. A.	Yale, 1882.	New Haven.
Lindsay, C. P.	Yale, 1878.	New Haven.
Lockwood, W. A.	Coll. Phys. and Surg., 1864.	Norwalk.
Looney, F. M.	Yale, 1862.	Birmingham.
Luby, John F.	Coll. Phys. and Surg., 1878.	New Haven.
Lynch, Peter H.	Univ. Vermont, 1862.	Danbury.
Lyon, E. B.	Berkshire, 1862.	New Britain.
Lynn, Irving W.	Coll. Phys. and Surg., 1863.	Hartford.
Lynn, A. W.	Columbia, 1878.	Bridgport.
Malhotra, Max.	Yale, 1878.	New Haven.
Manning, R. A.	Yale, 1882.	New London.
Mary, B. A.	Univ. N. Y., 1882.	New Preston.
Matham, George H.	Univ. N. Y., 1882.	Barnstable.
Marsden, W. W.		Meriden.
Martin, T. P.	Univ. N. Y.	Bridgport.
Mason, J. K.	Harvard, 1861.	Safford.
Mason, W. H.	Buffalo, 1829.	Norwich.
Mather, Wm. H.	Univ. N. Y.	Safford.
Mathewson, Earl.	Coll. Phys. and Surg., N. Y., 79.	Uncasville.
Mathewson, E. H.	Coll. Phys. and Surg., 1855.	Durham.
May, A. E.	Univ. Vermont, 1870.	Newport.

Name	Place and Date of Graduation.	F. O. ADDRESS.
May, Jacob	Yale Coll., 1878	Bridgewater
Mayer, Nathan	Cambridge, 1867	Hartford
McGaughey, J. D.	Jefferson, 1873	Wallingford
McKnight, E. J.	Coll. Phys. and Surg., 1873	East Hartford
McDonald, E. W.	Univ. N. Y., 1871	Waterbury
Mead, E. H.	Univ. Michigan, 1878	Soulin
Miller, W. S.	Yale, 1879	South Britain
Monroe, Wm. D.	Coll. Phys. and Surg., 1877	Hartford
Mortimer, J. J.	Univ. N. Y., 1881	Hartford
Morse, E. B.	L. I. Coll. Hosp., 1881	Bridgewater
Moss, E. T.	Barnington, 1877	East Hartford
Munger, Edwin	Yale, 1875	Niantic
Munger, W. S.	Yale, 1885	Waterbury
Munson, B. W.	Yale, 1880	Bridgewater
Murray, C. J.	Coll. Phys. and Surg., 1873	Norwalk
Nelson, A. W.	Harvard, 1880	New London
Newton, J. J.	Yale, 1875	Litchfield
Newton, C. B.	Yale, 1881	Stafford Springs
Neville, J. J. M.	Coll. Phys. and Surg., 1878	Waterbury
Nickerson, S.	N. Y. Med. Coll., 1857	Merriden
Nisold, John	Yale, 1884	New Haven
Noble, H. S.	Coll. Phys. and Surg., N. Y., 71	Middletown
Noonan, E. H.	Coll. Phys. and Surg., 1881	Stratford
North, Alfred	Coll. Phys. and Surg., 1881	Waterbury
North, J. H.	L. I. Coll. Hosp., 1873	Goshen
Notas, S. J.	Univ. Pa., 1868	Bloomfield
Nye, Eliza H.	Yale, 1878	Middletown
O'Connor, M. P.	Coll. Phys. and Surg., 1872	New Britain
O'Flaherty, Anna	Albany, 1884	Hartford
Old, Frank N.	Univ. Michigan, 1881	East Windsor
Olson, Jas.	Yale, 1874	Middletown
Oliver, C. H.	Yale, 1876	Southport
O'Reilly, T. J.	Univ. N. Y., 1874	Burlington
Orin, H. S.	Harvard, 1883	Hartford
Orin, S. D.	Univ. N. Y., 1877	Merriden
Packard, Geo. B.	Univ. Vermont, 1874	Hartford
Packard, Lewis S.	Univ. N. Y., 1884	Norwich
Page, C. W.	Harvard, 1879	Hartford
Park, Charles E.	Yale, 1880	New Haven
Parker, J. N.	Yale, 1877	South Manchester
Parson, T. R.	Univ. N. Y., 1880	Williamstown
Parsons, Geo. L.	L. I. Coll. Hosp., 1883	Hartford
Parsons, E. F.	Coll. Phys. and Surg., 1868	Thompsonville
Park, A.	Univ. N. Y., 1873	Norwich
Parkins, W. S. C.	Coll. Phys. and Surg., 1880	Norwalk
Phillips, A. S.	Coll. Phys. and Surg., 1885	Bridgewater
Polansky, E.	Yale, 1885	Yale
Perpore, Henry	Yale, 1884	New Haven
Peterson, Samuel	Coll. Phys. and Surg., 1881	Stamford
Petney, Chas. H.	Coll. Phys. and Surg., 1883	Derry
Platt, G. L.	Yale, 1888	Waterbury
Platt, Wm. L.	Coll. Phys. and Surg., N. Y., 82	Torrington
Pomeroy, George L.	Jefferson, 1882	Bridgewater
Pomeroy, G. L.	Chicago Med. Coll., 1881	Hartford

Name	Place and date of graduation	P. O. Address
Porter, Isaac H.	Univ. Pa., 1823.	New London.
Powers, P.	Col. Phys. and Surg., 1879.	Westport.
Richardson, D. A.	Yale, 1860.	Moore.
Robb, H. M.	Yale, 1888.	South Hadleybury.
Robley, S. G.	Univ. N. Y., 1816.	Rockville.
Roberts, Edward E.	Yale, 1886.	New Haven.
Roberts, G. H.	Col. Phys. and Surg., 1878.	Collierville.
Robinson, Remond.	Col. Phys. and Surg., 1817.	Norwich.
Robinson, H.	L. J. Col. Hosp., 1895.	Danburyville.
Rockwell, S. W.	Yale, 1835.	East Windsor Hill.
Rockwell, T. P.	Univ. N. Y., 1861.	Rockville.
Rodman, Charles B.	Col. Phys. and Surg., 1866.	Waterbury.
Rogers, Charles H.	Yale, 1847.	Central Village.
Rogers, Fred.	Univ. N. Y., 1862.	Williamsville.
Ross, E. E.	Univ. N. Y., 1873.	Hartford.
Ross, J. E.	Col. Phys. and Surg., 1883.	Hartford.
Rothschild, A.	Univ. Jena, Austria, 1865.	New Haven.
Russell, Gordon W.	Yale, 1837.	Hartford.
Russell, W. A.	Univ. N. Y., 1867.	East.
Russell, Wm. S.	Yale, 1869.	Wallington.
Russell, T. H.	Yale, 1873.	New Haven.
Russell, Wm. A.	Univ. N. Y., 1867.	East.
Sarkis, N. W.	Dorchester, 1860.	Central Village.
Sarkis, Samuel.	Univ. N. Y., 1866.	Darien.
Sarkis, Edward.	N. Y. Med. Coll., 1869.	West Cornwall.
Sarkis, George W.	Rockville, 1866.	Stamford.
Sarkis, Leonard J.	Jefferson, 1864.	New Haven.
Sarkis, Frederick G.	L. J. Col. Hosp., 1860.	Naugatuck.
Sarkis, C. A.	Univ. N. Y., 1863.	Portland.
Sarkis, C. B.	Yale, 1867.	Bridgport.
Sarkis, Gould A.	Yale, 1869.	Stamford.
Shepherd, George E.	Yale, 1866.	Hartford.
Shaw, A. M.	Jefferson, 1861.	Williamsville.
Shaw, H. W.	Yale, 1863.	Woodbury.
Shaw, J. H.	Univ. N. Y., 1868.	Ashford.
Smith, A. J.	Col. Phys. and Surg., 1862.	Bridgport.
Smith, A. P.	McGill Coll., 1861.	Naugatuck.
Smith, E. W.	Yale, 1862.	Meriden.
Smith, E. J.	Yale, 1876.	West Hartford.
Smith, H. B.	Univ. Pa., 1862.	Westville.
Smith, Hunter E.	Col. Phys. and Surg.,	New Haven.
Smith, N. P.	Univ. N. Y., 1873.	Stamford.
Smith, P. L.	Univ. N. Y., 1873.	Stafford Springs.
Smith, Oliver C.	L. J. Hosp. Med. Coll., 1866.	Hartford.
Smith, Sam. H.	Col. Phys. and Surg., N. Y., '62.	Danbury.
Snow, E. E.	Jefferson, 1874.	Hartford.
Sprague, S. L.	Harvard, 1869.	Norwich.
Stander, C. E.	Univ. Pa., 1874.	Williamsville.
Stanton, Geo. D.	Bethesda, 1865.	Stamford.
Stanton, I. G.	Bethesda, 1873.	New London.
Stearns, H. W.	Bethesda, N. Y., 1877.	Southampton.
Stearns, Thos. P.	Yale, 1863.	Hartford.
Stearns, J. E.	Yale, 1861.	New Haven.
Stearns, John A.	Univ. N. Y., 1874.	Hartford.

Name	Years and Date of Graduation	P. D. Address
Stevens, J. G.	Yale, 1834.	Marble.
Stevens, J. H.	Coll. Phys. and Surg., 1832.	Norfolk.
St. John, S. B.	Coll. Phys. and Surg., 1873.	Hartford.
Stoddard, Thomas.	Yale, 1858.	Seymour.
Stone, J. S.	Coll. Phys. and Surg., 1865.	New Britain.
Stone, M.	Yale, 1864.	Hartford.
Stimson, August.	Univ. N. Y., 1883.	Danbury.
Strickland, E. L.	Albany, 1839.	Enfield.
Strong, W. P.	Coll. Phys. & Surg., N. Y., '80.	Norwalk.
Sumner, C. P.	Yale, 1854.	Boston.
Swarwick, Charles G.	Yale, 1877.	New Haven.
Swell, W. P.	Univ. Vermont, 1878.	Terryville.
Swamy, E. P.	Coll. Phys. and Surg., 1869.	New Britain.
Swamy, Edward.	Coll. Phys. and Surg., 1878.	Hartford.
Swift, E. D.	Univ. N. Y., 1848.	Hartford.
Talcott, Aaron.	Yale, 1831.	Gaithers.
Taylor, O. M.	Albany, 1849.	Bridgeport.
Terry, Jas. L.	Coll. Phys. & Surg., N. Y., '71.	Minden.
Thacher, James K.	Yale, 1879.	New Haven.
Thompson, C. B.	Yale, 1873.	New Haven.
Thompson, W. H.	Yale, 1862.	New Haven.
Tiffany, W. H.	Quillston, Vt., 1827.	Hartford.
Tinker, W. B.	Univ. N. Y., 1880.	South Manchester.
Todd, Wm. S.	Coll. Phys. and Surg., 1863.	Ridgefield.
Town, A. W.	McGill Univ., Canada, 1872.	Meriden.
Treadwell, O. F.	Yale, 1865.	New Haven.
Tufts, Seymour W.	Yale, 1848.	Claremont.
Tuttle, P. B.	Yale, 1863.	Danbury.
Wainwright, W. A. M.	Coll. Phys. and Surg., 1867.	Hartford.
Wakeman, M. H.	Yale, 1854.	Rocking.
Wald, Emil.	Coll. Phys. & Surg., Balt., '84.	Rockville.
Warner, A. S.	Dartmouth, 1847.	Wethersfield.
Warren, J. A.	Coll. Phys. and Surg., 1860.	Willington.
Watson, W. L.	L. I. Coll. Hosp., 1884.	Danbury.
Way, Henry E.	Univ. N. Y., 1849.	Brant.
Weaver, C. H.	Coll. Phys. and Surg., Md.,	South Gloucester.
Webb, D. H.	Yale, 1846.	Malden.
Webb, Geo. K.	Coll. Phys. and Surg., 1878.	Hartford.
Webb, James.	Berkshire, 1831.	West Winston.
Webb, W. C.	Yale, 1877.	Ansonia.
Webb, William W.	Yale, 1839.	Nocton.
Wheeler, Frank.	Coll. Phys. and Surg., 1859.	Farmington.
Wheeler, Frank H.	Yale Med. Coll., 1882.	New Haven.
White, C. F. S.	Yale, 1862.	New Haven.
White, F. O.	Yale, 1872.	New Haven.
White, Moses C.	Yale, 1864.	New Haven.
White, R. A.	Yale, 1862.	Simsbury.
White, P. H.	Dartmouth, 1871.	North Manchester.
Whitmore, F. H.	Bethel, N. Y., 1874.	New Haven.
Whitmore, F. J.	Univ. N. Y., 1861.	New Haven.
Whitman, W. G.	Coll. Phys. and Surg., 1860.	Danbury.
Wile, William C.	Univ. N. Y., 1876.	Sandy Hook.
Williams, A. L.	Jefferson, 1869.	Brookfield.
Willison, S. W.	Yale Med. Coll., 1880.	New Haven.

Name	Place and Date of Graduation	P. O. Address
Wilson, F. M.,	Harvard, 1873,	Bridgport.
Wilson, E. A.,	Yale, 1852,	Windsor.
Wilson, W. V.,	Yale, 1867,	Wilmington.
Wishwell, A. E.,	Coll. Phys. and Surg., 1865,	New Haven.
Wittes, John,	Yale, 1857,	Putnam.
Wittes, William,	Yale, 1865,	Grotonville.
Wolcott, Willard,	Harvard, 1873,	Meriden.
Wood, J. H.,	Coll. Phys. and Surg., 1865,	Hartford.
Wood, William,	Univ. N. Y., 1847,	East Windsor Hill.
Woodruff, William,	Yale, 1826,	Thomaston.
Woodward, Asahel,	Rensselaer, 1839,	Franklin.
Woolsey, Chas.,	Dart. N. Y., 1872,	Tariffville.
Woodin, N. E.,	Jefferson, 1873,	Bridgport.
Worthington, A. B.,	Yale, 1847,	Middle Haddam.
Wright, F. W.,	Bellevue, 1880,	New Haven.
Wright, T. D.,	Dart. N. Y., 1865,	Plainville.
Wright, J. W.,	Univ. N. Y., 1880,	Bridgport.
Young, Francis J.,	Yale, 1866,	Bridgport.
Young, Mary J. R.,	Univ. Michigan, 1870,	Bridgport.
Zink, Walter,	Wartburg,	Dorset.

Members making any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

At the Annual Meeting of the Connecticut Medical Society, held at Hartford, May 27, 1885, the following proposed Charter was brought forward, and after much discussion it was ordered that action upon it be deferred till the next annual meeting, and that it be printed with the proceedings of 1885.

PROPOSED CHARTER

OF THE

CONNECTICUT MEDICAL SOCIETY.

SECTION 1. (Same as Section 1 of present Charter.) The physicians and surgeons now members of the Connecticut Medical Society, and all physicians and surgeons who shall hereafter be associated with them in pursuance of the provisions of this act, shall be and remain a body politic and corporate, by the name of the Connecticut Medical Society, and by that name they and their successors shall, and may have perpetual succession: shall be capable of suing and being sued, pleading and being pleaded in all suits of whatever name and nature: may have a common seal, and may alter the same at pleasure, and may also purchase, receive, hold, and convey real estate, real or personal to an amount not exceeding one hundred thousand dollars.

Sec. 2. Hereafter no one shall be admitted to membership in the Connecticut Medical Society, unless he shall have received the degree of doctor of medicine, or shall have been examined and licensed by said Society. All physicians and surgeons now members, and all who shall be hereafter admitted, shall be Fellows of the Connecticut Medical Society.

Note. The first part of sec. 2 corresponds to sec. 8 of the present Charter, and the second part to sec. 5. This section contains the substantial changes contemplated by the first part of the series of amendments presented, and by the second part the general statement of testing Fellows, drawn by the County Association to present them at the annual meeting is thus kept with it.

Sec. 3. The Fellows of the Connecticut Medical Society shall meet annually at such time and place as they may select, and at

such meetings they may elect a president, vice-president, secretary, and treasurer, and such other officers as they may deem necessary, who shall hold their respective offices for one year or until others are elected; they shall have power to appoint a State examining committee, who shall examine such candidates as may offer themselves for that purpose, and license such as shall be found qualified for the practice of physic or surgery; and to receive them, on their being so, Fellows of said Society; to confer honorary degrees in medicine on each of the faculty as they from time to time find of distinguished merit; they shall have power to establish rules for the admission, dismission, and expulsion of Fellows; to lay an annual tax upon each Fellow, not exceeding five dollars; to collect the same, and to hold and dispose of all moneys or other property belonging to the Society in such manner as they may think proper to promote the objects and interests of the Society; and, in general, to make such by-laws and regulations for the due government of the society, not repugnant to the laws of this State, or of the United States, as may be deemed necessary.

NOTE. The 2d and 2d Sections correspond partly to Section 2 of present charter and partly to some of the By-Laws. There is to be no corresponding Section at present.

SEC. 4. The Fellows of the Society shall meet annually in their respective counties, at such times and at such places as have been or may be hereafter agreed upon by them, and shall elect from among themselves a president, vice-president, and clerk, and such committee as they may find necessary. The Fellows of the Society, in their respective county meetings, shall have power to adjourn said meetings from time to time, and to hold special meetings as they may judge expedient, and may adopt such regulations for their own government, and for the promotion of medical science, as they may think proper, not repugnant to the by-laws of the Society.

SEC. 5. These amendments shall take effect on the day of their passage, and so much of as not entitled An Act to incorporate the Connecticut Medical Society, approved June 5, 1854, and all such acts in addition thereto and amendments thereof, as are inconsistent herewith, shall be and the same are hereby repealed.

NOTE. The proposed charter may be found with the proceedings of 1861.

PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
1886.

NINETY-FIFTH ANNUAL CONVENTION,

HELD AT

NEW HAVEN, MAY 26th AND 27th.

NEW SERIES, Vol. III.—No. 3.
PUBLISHED BY THE SOCIETY.

S. B. ST. JOHN, M. D., Secretary,
HARTFORD, CONN.

HARTFORD, CONN.
PRESS OF THE CASE, LOCKWOOD & BRAINARD COMPANY.
1886.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by a special vote.

Next Annual Convention of the Connecticut Medical Society will be held in Hartford, May 35 and 36, 1897.

All communications intended for the Connecticut Medical Society must be addressed to S. B. St. John, M. D., Hartford, Conn.

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OFFICERS OF THE SOCIETY.
1885-1886.

PRESIDENT:

T. M. HILLS, Willimantic.

VICE-PRESIDENT:

FRANCIS BACON, New Haven.

VICE-PRESIDENTS, *ex officio*:

LEWIS BARNES,
JOHN B. DERRICKSON,
L. S. PADDOCK,
F. L. DICKINSON,
RIENZI ROBINSON,
H. P. GEIB,
E. F. PARSONS,
J. H. GRANNISS.

TREASURER:

E. P. SWASEY, New Britain.

SECRETARY:

S. B. ST. JOHN, Hartford.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE:

W. C. WILE, A. W. NELSON, E. K. BOYT.

STANDING COMMITTEES.

Committee to Nominate Physicians to the District for the Insane.

R. W. MATTHEWSON, M.D., L. HOLBROOK, M.D.,
R. S. GOODWIN, M.D., R. W. GRISWOLD, M.D.,
F. V. BURNETT, M.D.

Committee of Publication.

S. D. DE JOHN, M.D., } *ex officio.*
E. F. SWASEY, M.D., }
I. W. LYON, M.D.

Committee of Arrangements.

H. P. STARNES, *Acting Chairman.*
W. W. KNIGHT, M.D.,
GEORGE H. SHEPHERD, M.D.

Treasurer.

A. E. ABRAMS, M.D.

Librarian.

W. H. CARMALT, M.D.

PROCEEDINGS

CONNECTICUT MEDICAL SOCIETY—NINETY-FIFTH ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in the City Hall, New Haven, at 3 p. m., Wednesday, May 26, 1886.

The President, Dr. Elijah C. Kinnery of Norwich, called the Convention to order, and appointed Dr. C. E. Hill and Dr. S. B. St. John as the committee to examine the credentials of the elected Fellows. The committee reported the Fellows elected whose names are presented. The list was accepted and the committee discharged. The following is the list as presented.

LIST OF FELLOWS, *in office*

Present

KELAN O. KISICKI, M.D.

Wesley Flannery

† NATHAN HITCHCOCK, M.D.

Vice President, ex officio.

LEWIS BAUNTS, M.D.

* JAMES B. DEANERSON, M.D.

I. S. PADDOCK, M.D.

* F. L. DICKINSON, M.D.

ROBERT ROBINSON, M.D.

* H. P. Gray, M.D.

E. F. Fajana, M.D.

J. H. LEASMAN, M.D.

Treasurer.

E. P. SWASEY, M.D.

Secretary.

S. B. ST. JOHN, M.D.

Committee on Matters of Professional Interest in the State.

C. J. FOX, M.D., § A. M. SHAW, M.D., W. H. HATMAN, M.D.

FELLOWS ELECTED IN 1886

Hartford County.

W. W. Knight,

H. O. Allen,

A. E. Abrams,

P. H. Ingalls,

* W. R. Tinker.

New Haven County.

W. H. Carmall,

M. C. O'Connor,

* E. W. Smith,

* W. S. Russell,

W. L. Barber.

New London County.

A. T. Douglas,

L. B. Almy,

William P. Barber,

P. Cassidy,

A. W. Nelson.

Fairfield County.

† A. L. Williams,

A. W. Lyett,

W. S. Todd,

W. B. Cogswell,

† C. H. Osborne.

Haddam County.

† N. W. Sanborn,

C. E. Hill,

* F. G. Sawtelle,

* W. W. Foster,

O. B. Griggs.

§ Deceased.

* Absent.

† Preceded by substitutes, viz., A. A. Baker, W. H. Donahew, C. N. Allen.

Middlesex County.

M. C. Hazen,

C. A. Sears,

Ezra Baker,

W. E. Fisher,

C. E. Stanley.

Litchfield County.

William Deming,

* C. H. Belden,

* W. B. Munger,

J. H. North,

* R. A. Marry.

Yale and County.

A. B. Goodrich,

C. B. Newton,

W. C. Haven.

PRESIDENT'S ADDRESS TO THE FELLOWS.

Fellows and Gentlemen:

By the exercise of your kind suffrages you have conferred upon me the distinguished compliment of acting as your president at the ninety-fifth anniversary of the Connecticut Medical Society, and while humbly asking your indulgence for many shortcomings, permit me at the same time to express my heartfelt thanks for the great honor received at your hands.

It is with much satisfaction that I am enabled to congratulate you upon the continued and increasing prosperity of our society; at no time in its history has its power been as great, and its influence more extended than today. This is in a large measure due to the fact that the profession are all the time becoming more and more impressed with the necessity for active and efficient society organization, and as means to this end, one of the first truths that the young graduate should have imprinted into his mind is the duty of immediately connecting himself with his county society, and becoming an active working member of the same.

The physician who ignores his society privileges inflicts upon himself great harm, and I think the time not distant when the man who holds himself haughtily aloof will suffer disgrace in the eyes of his medical brethren as well as the public at large. With profound sorrow and regret I have the sad duty to announce the

vice-president's chair vacant. Dr. Samuel Henshaw died very suddenly last January in the full strength of his usefulness, sincerely and deeply mourned by all whose good fortune it was to have come within the circle of his influence. This is the first time for a long period, if ever, that a vice-president has died during his term of office, and I think it incumbent upon the society to express in some particular manner its sense of the misfortune it has sustained. I would suggest that a committee be appointed to prepare suitable resolutions of respect and regret, and that the same form a part of the permanent records, also that a copy be presented to the family of the late vice-president.

Again I have to recall to your recollection the death of an ex-president, Dr. Asahel Woodward of Franklin. Dr. Woodward passed away last winter in the ripe maturity of age. He literally died in the harness, and many mourn the absence of his skillful ministrations and genial presence.

This part of my duty would be most imperfectly performed did I fail to announce the very recent, and to most of us, unexpected death of Dr. A. M. Stark. The doctor was in the prime of life and intellectual vigor, a most devoted adherent to his profession, and particularly to that branch of which he had made himself a master.

Other members equally beloved and regretted have died; their obituaries will be announced by those specially appointed to the office. The matters of interest that present themselves for our consideration are few, and I shall occupy only a short time in their discussion. The first object that I will bring to your attention is the absolute necessity of devoting more time to the scientific part of our meetings. Every year we have offered many valuable papers, which for want of opportunity are read by title, and consigned to the oblivion of the "Proceedings." This should be at once remedied; it is poor encouragement to a man to spend hours, and perhaps days, in the preparation of a paper, and then be deprived of a chance to read the same.

Last year we had less than three hours devoted to literary work. I would propose that either we have a morning meeting and afternoon session, postponing the dinner until evening, or that we add another day. The subject of medical education has always occupied a prominent place in the consideration of this society, and it is a matter for just pride that we can point to an early recognition

of the necessity of a good preliminary education in those designing the study of medicine. If one will refer to our by-laws (chapter 1a of Medical Education) passed May, 1847, he will see defined the manner in which a student can be admitted to the study of medicine, the branches upon which he must be examined, and who shall conduct the examination. Again, in 1882, the duties of the "Board of Censors" were specified, and our reader is as follows:

"The duties of the board shall be to examine and pass upon the qualifications of any person presented to them, proposing to enter as a student of medicine," etc. (see Proceedings, 1882, page 23.)

We thus see that nearly forty years ago our society passed laws compelling a good preliminary education in those about to enter upon the study of medicine. Now, as we have the means already provided to secure this end, would it not be well to put them into action?

While it must be admitted by all, that the procurement of an effective State law on "Medical Education and Practice," would be a most desirable attainment, I question very much if the time is opportune for the attempt. Any law to be of value, must have the support of public opinion, without which it is little better than waste paper. In the minds of the American people, there is a very firmly-rooted belief, that they are capable of choosing their own professional advisers, medical, clerical, and legal without State aid, and they are very intolerant of any interference with this privilege. Now, when we can so educate the public, that when epidemics threaten and disease invades their households, they will find in the honest and educated physician their best friend and surest protector, then they themselves will demand laws, compelling the annihilation of the pretender and charlatan. However, as this happy period has not arrived, and as twenty or more States have passed laws on "Medical Education and Practice," I think it would be well if we had a standing committee, whose business it should be to investigate the practical workings of these laws, to ascertain how far they fulfill the ends so loudly anticipated by their sponsors, and having accomplished this purpose to report at their convenience.

It does, however, seem to me that the time has arrived when it would be proper to agitate the question of asking State aid for a hospital devoted to the treatment of febrile and dyspeptic cases. The few moments at my command do not permit of any extended

comment on this matter. This object we now seek to accomplish through the medium of the private asylums; here the great drawback has been, want of legal power to compel the patients to remain longer than his own will dictates, and also the great expense necessarily attending the use of these valuable institutions.

Many a noble life, wrecked by some unexpected mental or physical shock, has become a victim to alcohol or some other equally deleterious agent; these unfortunates, by their own unaided efforts, are as powerless to break the chains that bind them as water to flow up hill.

My experience compels the belief that their only hope of restoration consists in their being placed for a sufficient length of time in a well-regulated institution, where the procurement of cerebral-spinal stimulents is a physical impossibility, and that their retention should be compulsory until their mental and physical health is completely restored. After this their future course is subject to their own volition.

The Society is in debt; this unfortunate condition has arisen from a resolution passed last session, ordering the expenses incurred in publishing the back numbers of the "Proceedings" to be paid out of the money then in the treasury; the money had just been received, and was the dues paid in by the County Societies for the current expenses of the year; consequently their appropriation to an unusual end has caused the embarrassment. It seems most proper that the resolution should be repealed, and the former resolution, imposing a special tax on each number for this purpose, be re-enacted; the treasurer, in his report, will present this subject in detail.

The proposition of change of charter is the most momentous question that has ever agitated this body. It has been so exhaustively presented to your attention that it is unnecessary for me to offer any suggestions, excepting to beseech you to approach its consideration uninfluenced by passion or prejudice, and fearlessly give your vote to what you consider to be for the best future interests of the Connecticut Medical Society.

The President then announced the following committees:

On Unfinished Business.

W. H. Corbitt, M.D. W. W. Foster, M.D.
Edwin Baker, M.D.

On Owing Members.

L. B. Almy, M.D. O. B. Griggs, M.D.
W. B. Cogswell, M.D.

On Business.

S. B. St. John, M.D., *ex-officio*. P. H. Ingalls, M.D.
William Dering, M.D.

On Honorary Members and Degrees.

P. Cassidy, M.D. J. H. Grannis, M.D.
A. L. Williams, M.D.

Auditing Committee.

E. F. Parsons, M.D. R. M. Robinson, M.D.

To Nominates Resigns.

M. C. White, M.D. A. B. Goodrich, M.D.

The Treasurer's report for the past year was then read by the Treasurer, Dr. Swasey.

REPORT OF TREASURER FOR YEAR ENDING MAY, 1886.

Balance from old account,	\$649.12
Received during fiscal year,	601.86
Total,	\$1,250.98
Expenditures,	765.99
Balance in treasury, May, 1886,	548.02
Diminution of receipts from 1884,	186.48
Increase of expenses,	416.58
Excess of expenses over receipts,	191.10
Diminution from balance of last year,	191.10

Amount due on taxes of 1885.

Hartford County,		Nothing
Windham "		"
Tolland "		"
New London County,	13 taxes = \$24 less 10 per cent.,	\$21.40
Fairfield "	16 taxes = \$32 less 10 per cent.,	28.80
Middlesex "	4 taxes = \$8 less 10 per cent.,	7.20
New Haven "	14 taxes = \$28 less 10 per cent.,	25.20
Litchfield "	19 taxes = \$20 less 10 per cent.,	18.00
Total,		\$102.60

This can hardly be considered a report satisfactory to the society, for, while the amount due on taxes the past year is not so great as in some former years, it shows a steady increase since 1881. In the past ten years the least indebtedness was in 1873, amounting to \$24.30; the largest, 1876, \$142.29.

Last year I reported no return from Litchfield County, but this was satisfactorily explained, and all but \$5.40 of the amount due paid before the close of the year. This present year, however, finds this county in arrears to the amount above stated, and, save Hartford, Tolland, and Windham, whose taxes are always paid in full, there is a falling off in the collection in each of the other counties.

The deficit, as I have stated in other reports, is not due to negligence on the part of the clerks, for I am confident they have used the utmost diligence and endeavor to make full returns.

An explanation of this difficulty in collecting I will not attempt to give, probably it is varied; but I am pleased to present a suggestion that may help matters somewhat, viz. that the Secretary be empowered to withhold the Transactions from all members in arrears.

It has also been suggested that all taxes be paid by May 1st, and that an additional 10 per cent. be levied on all taxes not paid at that time. It would be a very small return to the clerks for their much tried patience.

The Society is still in debt to the amount of \$387.86, incurred in the publication of the "Old Proceedings." With the balance of cash on hand we shall be unable to meet this indebtedness and the expenses of the current year, unless some extra provision is made, which is to be considered in the unfinished business of last year.

The special committee appointed at the last meeting to obtain an expression of opinion in regard to the adoption of the main features of the proposed charter from every member of the society then reported as follows:

REPORT OF COMMITTEE ON PROPOSED CHARTER.

The undersigned, having been appointed a committee to obtain an expression of opinion and wishes in regard to the adoption of the main features of the proposed charter, from every member of the State society, would respectfully report:

That they sent by mail to every member of the society a circular explaining the nature and objects of the changes proposed, accompanied by a blank form of ballot, requesting each member to fill out the blanks so as to express his opinion and wishes, and return the same over his own signature. To this circular we have received 321 written answers as follows:

1st. 254 in favor and 65 opposed to that part of section 2 of the proposed charter which provides that all physicians and surgeons now members, and all who shall be hereafter admitted, shall be Fellows of the Connecticut Medical Society.

2d. 235 in favor and 85 opposed to having each annual county meeting appoint a committee corresponding to the former number of Fellows, charged with the duty attending to the wishes of their county meeting in the annual meeting of the State society, but that all members present have equal powers to speak and vote at such meetings.

3d. 257 in favor and 52 opposed to retaining the power which the society already possesses, to grant licenses for the practice of medicine in such rare cases as the society may approve.

4th. 109 in favor and 17 opposed to abolishing the old form of collecting taxes by legal process, as found in section 5 of the old charter, which form has become odious and obsolete, and which has been superseded by a better method fixed in our by-laws.

By these returns it appears that nearly four-fifths of the society are in favor of the proposed charter.

The purport and design of the second proposition of this ballot, which the committee distinctly stated in the circular was not essential to their report, was erased or ignored by 49 of the respondents.

The sentiment expressed by those who voted in favor of that

proposition, can, as the committee believe, be appropriately provided for in the by-laws.

In view of the returns received by your committee, they would respectfully propose for adoption the following :

Resolved, by the President and Fellows of the Connecticut Medical Society that we approve and adopt the proposed charter now under consideration, and that a committee of three be appointed to obtain its approval by the General Assembly at its next session.

Resolved, That a committee be appointed to consider and prepare such changes in our by-laws as may be required in case the said charter is approved by the General Assembly.

Respectfully submitted,

MOSES C. WHITE,	} Committee.
LEWIS S. PARSONS,	
WILLIAM G. BROWNSON.	

Dr. PARSONS, one of the committee, protested against the reception of the appended resolution as part of the committee's report. He did not believe that the resultant vote as appeared from those returns represented the true feeling of the subscribers.

Dr. WHITE did not care to combine the resolution with the report if objection was made, and the report without the resolution was received, and the committee discharged.

Dr. HUBBARD then moved the adoption of the resolution.

Dr. CARMALT objected — that the committee in obtaining this vote had exceeded their instructions and had sent out an argumentative circular, with copious references to Dr. Hubbard's article in the last Proceedings, which was an argument for the new charter. Moreover, the circular was misleading, since it stated that every State medical society in New England, except our own, allowed every member to participate directly in the election of officers and the transaction of general business. This Dr. Carmalt showed not to be the case, by reading from the constitution and by-laws of the Massachusetts Medical Society, from which it appeared that that society was organized almost exactly like our own; delegates corresponding to our "Fellows" being elected by the district medical societies, and those delegates having charge of election of officers, appointment of committees, admission and expulsion of members, determination of place and time of meeting, and in general all the business that is entrusted to our Fellows. The

statement in the article referred to, that in Massachusetts every member is a fellow, was misleading, for in that State the terms member and fellow are synonymous, while the term "councillor" corresponds to our "fellow." In view of the fact that the vote above given had been obtained by such a circular as this, Dr. Carnall thought it was of no value as an index of the opinion of the members subscribing their names. He also adduced the example of the Michigan State Society, which for twenty years had been organized upon the same meeting principle, and had become so dissatisfied with the waste of time on non-professional matters and the attention given to unscientific schemes, that they had appointed a committee on reorganization, which committee had just recommended a plan, the main feature of which was just what this new charter would take away from us, viz.: a representative governing body.

Dr. Beckwith thought that if a man was fit to be a member of this society he was fit to vote in its business meetings and ought to be allowed to do so, and that this would give him a greater interest in the doings of the society.

Dr. Cassidy spoke in favor of retaining the old charter, believing that the new offered greater chances for jockeying meetings with those favoring local projects.

Dr. Douglas said the New London County Society had instructed their delegates to vote for the old charter, but he did not regard that vote passed by a few men at the county meeting as binding and should not do so. He thought that the same men were sent year after year as follows, and so the management was in the hands of a few.

Dr. Walawright believed that this was a question to be decided by the county members. If the new charter was adopted the city members would have the advantage, hence it ought not to be thrust upon the country members against their wishes.

Dr. Wile said he was in favor of the new charter last year, but now he was opposed to it, as he saw what an opportunity it would give to the members representing the larger cities to carry any scheme they might wish to, even against the wishes of the entire remainder of the society.

Dr. Hazen spoke in favor of retaining the old charter; Drs. Goodrich and Hubbard in favor of the new one; the latter again.

ing that the vote as reported by the committee showed that a large preponderance of sentiment lay in favor of a change.

Dr. Graham moved to lay the question on the table for one year.

Dr. Douglas moved to amend by referring it to the same committee as before, to obtain a vote by circular, which should be binding. The amendment was declared out of order, and a vote was taken on the motion to table, which was lost by a vote of twelve to twenty four.

After further discussion the vote was taken on the original resolution of Dr. Hubbard, resulting as follows: For the old charter, twenty five, for the new charter, eight.

The Nominating Committee, consisting of

DR. W. W. KNIGHT, Hartford County,
M. C. O'CONNOR, New Haven County,
A. T. DEBULLA, New London County,
W. S. TOWN, Fairfield County,
C. E. HILL, Windham County,
M. C. HANCOCK, Middlesex County,
WM. DENNIS, Litchfield County,
A. R. GOSWORTHY, Tolland County,

then brought in their report as follows:

President, Dr. T. M. HILLS of Willimantic.
Vice President, Dr. FRANCIS BACON of New Haven.
Secretary, Dr. S. B. ST. JOHN of Hartford.
Treasurer, Dr. E. F. STASNEY of New Britain.

Committee on Matters of Professional Interest.

W. C. WILE, M.D., A. W. NELSON, M.D., E. K. ROOT, M.D.

Committee to Nominate Physicians to the Board for the Term.

R. W. GRIFFOLD, M.D., P. V. BURNETT, M.D.

Committee of Publication.

J. W. LYON, M.D., Secretary and Treasurer (*ex officio*).

Committee of Arrangements.

H. P. STEARNS, M.D., W. W. KNIGHT, M.D., GEO. R. SHEPHERD, M.D.

President.

A. E. Abrams, M.D.

Alternate.

W. H. Carmah, M.D.

Delegates to American Medical Association.

Des. Geo. F. Lewis (Bridgeport), C. A. Lindsley, Geo. C. Jarvis,
R. W. Mathewson, T. F. Rockwell, W. J. Ford, F. N. Braman,
C. J. Fox, W. G. Wills.

Delegates to Maine Medical Association.

Dr. Rufus Baker, Dr. S. Nickerson.

Delegates to New Hampshire Medical Association.

Dr. A. W. Bell, Dr. C. B. Newton.

Delegates to Vermont Medical Association.

Dr. J. N. Bell, Dr. P. Condy.

Delegates to Massachusetts Medical Association.

Dr. H. E. Hammond, Dr. H. S. Olin.

Delegates to Rhode Island Medical Association.

Dr. A. R. Goodrich, Dr. M. A. Cronin.

Delegates to New Jersey Medical Association.

Dr. W. G. Brownson, Dr. M. C. Hazen.

Delegates to New York Medical Association.

Dr. A. T. Douglas, Dr. F. L. Dible.

The Secretary was instructed to cast the ballot of the society for the foregoing officers, who were declared elected.

The Committee on Unfinished Business reported favorably on the amendment offered last year, empowering County Clerks to drop the names of members who persistently refuse to pay their taxes though able to do so, recommending that the time be limited

to two years before dropping the name. The report was received and the committee discharged, but no action taken as it was found that the By-Laws provided sufficiently for the purpose already.

Voted, That the annual tax of \$2, payable on and after June 1, 1886, be assessed on each member of the Society, also, that 740 copies of the Proceedings be published.

Voted, That an additional tax of \$1.25, payable on and after June 1, 1886, be assessed on each member of the Society, subject to rebate in proportion to the subscriptions paid in by the respective counties to defray the expense of printing the early proceedings of the society.

The Convention then adjourned to meet the 31st Wednesday in May, 1887, at Hartford.

S. B. ST. JON, M.D., *Secretary*.

THE ANNUAL CONVENTION.

THURSDAY, May 27th.

The second day's exercises began at 9 o'clock, with the report of the Secretary, as follows:

SECRETARY'S REPORT.

The membership of the society has been well maintained during the past year. From all counties we have an accession of thirty-four new members. New Haven County again comes to the front with 14, followed by Middlesex with 7, New London with 6, Fairfield 4, Hartford and Windham 3 each, and Tolland 1.

Our nursery list is greater by one than last year. Nine of our number have passed away, and of these five belonged to one county, New Haven; Hartford, Middlesex, Windham, and New London showing one each. Of this number, three had borne the burden and heat of the day for a full half-century since their graduation, and two more for about forty years. The death of Dr. Hutchins leaves the Society for the time without a Vice-President, the first instance for many years, at least, when a Vice-President of this society has died in office. A former President, Ashbel Woodward, has also passed from among us. Two removals or dismissions from county societies leave us with a net gain of sixteen, or a total membership of 519.

The following is a list of new members, with date and place of graduation:

- Frederick T. Simpson, Hartford, 1884, Miami Medical School.
 Geo. R. Miller, Hartford, 1888, College of Physicians and Surgeons, Baltimore.
 Chas. C. Beach, Hartford, 1881, College of Physicians and Surgeons, New York.
 Chas. M. Downes, New Haven, 1883, Yale.
 Oliver T. Colborn, New Haven, 1884, Yale.
 Maria M. Dunn, Waburbury, 1879, Women's College, Pa.
 Lucy C. Cramer, New Haven, 1883, Women's College, Pa.
 Wm. G. Daggett, New Haven, 1885, University of Pennsylvania.
 Louis S. DeForest, New Haven, 1885, University of Iowa.
 Wm. E. Lockwood, New Haven, 1888, Yale.
 J. H. Kane, Meriden, 1883, Long Island College.
 A. J. Tenney, Bratford, 1883, Yale.
 W. L. Havens, Hamden, 1885, College of Physicians and Surgeons, New York.
 Geo. F. Lewis, Stratford, 1884, Yale.
 Geo. K. Lennart, Danbury, 1885, Bellevue Hospital Medical College.
 A. L. Scott, Danbury, 1885, College of Physicians and Surgeons, New York.
 Henry Rodgett, Bridgeport, 1881, Bellevue Hospital Medical College.
 Jacobs D. Dalton, Willimantic, 1871, University of New York.
 David Samuel, Willimantic, 1846, Victoria College, Montreal.
 Kimball K. Dwight, Willimantic, 1886, College of Physicians and Surgeons, Baltimore.
 Jas. B. Fuller, New London, 1875, Bellevue.
 J. F. Osmun, New London, 1883, College of Physicians and Surgeons, New York.
 J. W. Dart, New London, 1881, Bellevue.
 W. K. Tingley, Norwich, 1886, Bellevue.
 B. W. Robinson, Colchester, 1899, College of Physicians and Surgeons, New York.
 S. L. Chase, Colchester, 1899, College of Physicians and Surgeons, New York.
 F. B. Hallock, Cromwell, 1885, College of Physicians and Surgeons, New York.

C. F. Linquist, Portland, 1882, Yale.

M. D. Murphy, Middletown, 1884, Bellevue.

Frank B. Look, Middletown, 1884, Bowdoin.

Geo. E. Bailey, Middletown, 1884, College of Physicians and Surgeons, New York.

Geo. H. Moody, Deep River, 1883, University of New York.

Arthur J. Campbell, Portland, 1885, College of Physicians and Surgeons, Baltimore.

Simon W. Houghton, Somers, 1879, Bellevue.

The Committee on Matters of Professional Interest reported through the Chairman, Dr. C. J. Fox.

The committee sent out a circular, which will be found in the Report further on (Appendix A), together with some of the responses. The death of Dr. Shaw, a member of the committee, called forth a well-merited tribute to his value as a member of the Society.

Drs. Browning and Palmer, delegates from the Rhode Island Society, were introduced, and spoke briefly, as did also Dr. Hubbard, delegate from the New York State Medical Association, and Dr. Cutting of Boston, an honorary member of the Society.

Drs. Hammond, Worthington, and Carmalt made brief verbal reports regarding the meetings of the Maine, Massachusetts, and Rhode Island Associations, respectively, and Dr. S. G. Hubbard read a report of the meeting of New York State Medical Association. (Appendix B.)

Dr. F. E. Beckwith then read a dissertation upon "Treatment of Laceration of the Cervix Uteri." Discussion followed. (See page 45.)

Dr. Wright read an Essay on "The Microscope as its relation to Disease," with special reference to the so-called Germ Diseases, which was fully illustrated by the exhibition of the bacillus typhoides, the comma bacillus of cholera, etc.

Dr. Stanton's Essay "O Tempora, O Mores," was then read, being a protest against the rampant forms of quackery rife in our midst. As pertinent to the discussion which followed, the report of the Committee on Medical Education—appointed last year—was called for, and read by the Secretary. (See Appendix C.)

Dr. Carrington moved that the Society appoint a committee to confer with representatives of the Homœopathic and Eclectic Societies, in reference to some practical action looking to the

adoption of some such act as that recommended by the American Medical Association. After discussion by Drs. Hubbard, Paddock, Almy, and Nelson, Dr. Douglas moved an amendment to refer the question to the Board of Health. Dr. Lindsey did not favor this reference, but said the Board of Health would assist in every way in its power. The amendment was lost, and the original motion was carried. The President appointed as this committee, Drs. Carrington, Wainwright, and M. C. White.

Dr. Munger read an Essay on "Morbus Brightii," especially in reference to its influence on other diseases.

Dr. Gilbert read an Essay on "Prosternia."

Dr. White read a report of a case of Traumatic Epilepsy, with post-mortem examination, illustrating it with a plaster cast and photographs of the brain.

The Committee to Nominate Essayists reported the following names:

Jas. Campbell, M.D., Hartford County,	
H. E. Smith, M.D., New Haven	"
H. P. Galt, M.D., Fairfield	"
J. R. Parker, M.D., Windham	"
C. E. French, M.D., Litchfield	"
F. J. Beckwith, M.D., New London	"
Jas. Olmsted, M.D., Middlesex	"
T. F. Rockwell, M.D., Tolland	"

The society then adjourned for the annual dinner at the New Haven House,

S. B. SEY, JOHN, M.D., Secretary.

PRESIDENT'S ADDRESS.

A STUDY OF DIABETES MELLITUS.

Gentlemen of the Connecticut Medical Society:

There are certain physiological and pathological conditions of the human economy, the study of which is a gradual unfolding of the progress of scientific medicine.

Few diseases illustrate this fact better than the one I propose briefly to discuss this morning, viz.: Diabetes Mellitus. The name diabetes is derived from two Greek words, dia, through, and baino, to move or pass. It is not very happily chosen, and in its adoption we may perhaps discern the grim humor of some wretched victim.

The disease seems to have been known from the earliest time, for we find that it is, to a certain extent, described by the fathers of medicine. Celsus speaks of a condition manifested by an inordinate increase of urine, leading to emaciation, and terminating fatally. Aretæus and Galen afterwards treated of the disease more at length, and the former gave it the name. Aretæus thought the stomach to be the seat of the disease, while Galen maintained that the kidneys were the offending organs. Paracelsus took the rather fanciful view that the disease was caused by the excessive formation of salt in the blood. Cardano, soon after, was the first to record observations regarding the amount of food and drink taken, and the quantity of urine passed. From these early times but little advance seems to have been made in the knowledge of diabetes until the latter part of the seventeenth century, when Thomas Willis, in 1654, obtained for himself great renown by announcing the fact, heretofore unknown, that the urine of diabetics contained a sweet substance; he observed that bees clustered around the spot where a patient had just before micturated. A hundred years now passed before the next great step was made. In 1774, Dobson and Pole, about the same time, found the blood of diabetics to be sweeter than ordinary blood. Home and Cowley soon after, in 1795, showed sugar obtained

from the urine. About the close of the eighteenth century a great advance was made by John Bello, an army surgeon, who observed the injurious effect of vegetable food, and suggested an exclusively animal diet in the treatment of this disease. In 1816, M. Chevreul demonstrated that dextrose sugar resembled that obtained from starch. In 1823, Treubman and Gmelin discovered that sugar is the normal product of the digestion of starchy substances. Ambrosius, in 1835, was the first to demonstrate positively the presence of sugar in the blood. This, as we have seen, had been previously conjectured by Dubois and others on account of its sweet taste, and by Bello, by reason of its sweetening power; but before Ambrosius, the most skilful chemists had failed in the demonstration. Mr. McGregor of Glasgow, repeated the demonstrations, and published his researches in 1837. The experiments of Thénard, Berchardot, Lebig, and others, showed that sugar could be changed into lactic acid by means of a ferment, and could be destroyed by means of an alkali.

Claude Bernard, in 1848, astonished the whole medical world by his brilliant and original experiments showing the relation of the liver to sugar formation, and again, in 1850, that artificial diabetes could be produced in animals by puncture of the duct of the pancreas in the door of the fourth nodule. A brief review of his observations (which can be found at length in the most admirable paper of Lamarle Beaumont) may not be out of place. Bernard found that when exclusively food was given to an animal in large quantities sugar could be found in the blood of the portal vein, in the vena-cava, and in the right side of the heart. On repeating the experiment with animals deprived of sugar and starch, and fed on meat entirely, he still found sugar in the blood of the right heart and vena-cava, and that it entered the cava with the blood of the hepatic vein; sugar was also present in large quantities in the liver, but absent in the blood of the portal vein. This contrasted very markedly with his previous experiments when animals were fed on a saccharine diet; then the blood of the portal vein was rich in sugar. Now on an entirely meat diet sugar in the blood of the portal vein was absent, but in the blood flowing from the liver sugar was again abundant. From these observations he concluded that the liver had the power of forming sugar. By injecting a stream of water through the portal vein in a liver

removed from the body, Bernard found that he could wash out all the sugar from the organ, but that after letting the liver lie for a while and repeating the experiment sugar could again be extracted, as all the blood had been washed out by the first experiment it was evident that the sugar could not come from it, but from some substance contained in the liver itself. This substance, from subsequent observation, he found to resemble starch in its behavior, and that it could be converted into sugar by boiling with dilute acids, and by the action of different ferments. Bernard called it glycogen, and this is the name by which it is more generally known. Other physiologists have called it by various names, as animal starch, amyloid substance, etc. Bernard noticed that the secretion obtained from the liver of an animal fed on starch and sugar was quite milky, while that from one fed on flesh alone was much less so. This indicated that in the former the liver contained much glycogen, and in the latter little. He also observed that the blood in the hepatic vein contained about the same amount of sugar, whether the animal got a diet rich in sugar, or one containing none. He was thus led to the conclusion that one great function of the liver was to arrest the products of digestion on their way from the intestines into the general circulation; as this function is performed by the conversion of sugar into glycogen he called it the glycogenetic function, while the conversion of glycogen into sugar again is known as the glycogenic function. These views gave rise to great discussion, and there is hardly a physiologist of note who has not taken a hand in the contest. The experiments have been repeated, contradicted, again confirmed, and modified in almost every conceivable way, but there is today, probably, no fact more generally accepted than that of the glycogenetic function of the liver as discovered by Bernard.

Starting from the celebrated premises of Bernard, it has been found that glycosuria can be artificially produced by any agent that interferes with the normal action of the vaso-motor nerves governing the circulation in the liver, whether that interference be either directly or reflexly applied, or more correctly speaking, any interference of the vaso-motor that causes an increased and accelerated flow of blood through the vessels of the liver. The vaso-motor nerve center is situated in the medulla oblongata. The vaso-motor nerves for the liver pass from the center down the spinal cord for a certain distance, then proceed through some of the splan-

communicating branches to the sympathetic cord, and through the splanchnic nerves to the liver. The exact point at which they leave the spinal cord and pass to the sympathetic is not quite certain. The numerous experiments undertaking to elucidate this point are extremely interesting, but the time at my command does not permit a review of them.

Cantani divides the history of diabetes into four periods. The commences with Aretæus and Galen, in which the presence of sugar in the urine was recognized, but not understood. The second, which commences with Willis, in which the symptomatology of diabetes was established. The third with Haller, who, more than his predecessors, pressed a practical and able discussing the theories of the disease. The fourth commenced with Claude Bernard, who by his well-known experiments demonstrated the sugar-forming function of the liver. Glycerogen is not found in the liver alone, but in the muscles and other organs, particularly when young cell-development is in active progress.

ETIOLOGY.

The causes of this curious disease, excepting where we see them arise from trauma, are very obscure. It is more frequent in men than in women by about the proportion of three to one, excluding the cases of temporary glycosuria that occur during pregnancy and lactation. Age also exerts an influence; it may occur at any time from early youth to extreme old age, although it is most common from forty to sixty. In early life the disease is very rapid and fatal. Hereditary influences are not strongly marked, the children of diabetics as a rule not showing the disease, although the tendency may appear very strongly in a single generation, and several brothers and sisters be affected. The disease is very occasionally met with, in fat, stout people, often of a gouty habit; more rarely it occurs in thin, active persons of a nervous temperament. Habits of life are supposed to have an influence, as it is often observed among the affluent, and well-to-do classes, than in the opposite walks of life. The trouble appears to have been frequently excited by blows and injuries to the head and general shock. Violent and depressing emotions, and great mental exertion and worry, are often exciting causes. It is very interesting at times to watch the effect of mental exertion in diabetes. I have had since 1873 under my care a gentleman, who when he is living a

quiet life, with a proper diet, has little or no sugar in his urine, and enjoys good health. But let him perform active mental labor, as he will do at times in spite of illness, sugar will appear in his urine, and he will suffer from many diabetic symptoms. Warned by his bad feelings to will again submit to diet and quiet, when the sugar will disappear and his health become re-established. The question that continually presents itself to our minds is whether diabetes arises from a deficient conversion of sugar into glycogen, or from a diminished combustion of sugar in the body. Did time permit, a review of the most complete and able discussion of this point by Lauder Brunton would reveal much truth, but I will only refer to the concluding paragraphs, which I will quote. He says:

—The liver has two functions, first, that of taking up the sugar which it receives from the intestines, and converting it into glycogen, and second, that of forming sugar again from the glycogen. The muscles probably possess three functions: first, they take up sugar from the blood, and convert it into glycogen; second, that of forming sugar again from the glycogen; and third, they change both the sugar they form, and the greater part of that they receive from the blood, into lactic acid and glycerine, which undergo oxidation.

—Diabetes may arise from increased formation of sugar due to excessively rapid digestion of starch or sugar. First, to failure or imperfection in the glycogenic function of the liver, and possibly to some extent also of the muscles. Second, to increased transformation of glycogen into sugar, due to accelerated circulation through the liver, or a larger proportion of ferment in the organ or in the blood. Diabetes may arise from *impaired combustion* due, first, either to insufficiency of the ferment which should convert the sugar into lactic acid and glycerine; second, to an altered quality of the sugar which enables it to resist the action of the ferment; or third, to diminished circulation through the muscles preventing the sugar from coming sufficiently into contact with the ferment."

SYMPTOMS

This disease at times comes on very insidiously. A person supposing himself to be in perfect health, as the appetite, sleep, and digestion are apparently normal, notices an insupportable feeling of weakness and nervous prostration steal over him, and he begins

to observe that he is losing flesh; at the same time his nights are disturbed by frequent calls to micturise, and he finds he is passing larger amounts of urine than is normal; coincident with this is an intense thirst and dryness of the mouth, which soon becomes a most distressing symptom—drink water as freely as he will the tongue and mouth are as dry as before. The skin becomes dry and harsh, perspiration absent, and often an intense itching is experienced. At the same time boils and carbuncles present themselves, and are a source of great annoyance and danger. A symptom which is frequently most annoying and often among the earliest recognized is an intolerable itching at the end of the urethra in the male, and the vulva in the female; when this last occurs it should always lead to an examination of the urine. Sexual inclination and power are diminished and often completely destroyed. The urine in diabetes is generally increased, often amounting to eight or a hundred ounces in a day, pale straw color, and emitting on standing a peculiar odor. The specific gravity is high, ranging from normal to even 1050 to 1055, commonly it is between 1020 and 1045. This increase in gravity is not wholly due to the sugar, but it is also influenced by the quantity of urea which may arise to a proportion two or three times greater than the normal. This increase of urea is due to the largely increased consumption of nitrogenous diet, and to the greater metamorphosis of nitrogenous tissue. A very remarkable and quite constant symptom is the peculiar odor of the breath; this is sometimes as intense as to pervade the whole atmosphere of a room. It has been compared to the odor given off by apples, again to sour beer, and again to skatolone. To me it is more like the air of a room in which ether has been freely used. This internal odor is at times observed in the breath of drunkards, and probably comes from the same source, viz.: the destructive product of alcohol in the blood. As the disease progresses, dyspepsia and indigestion replace the previous good and excessive appetite, which marked the earlier stages; the bowels are generally constipated. The amount of carbonic acid expired and of oxygen inhaled is less than usual, and it has been found by Pettenkofer and others that diabetic patients lose the power of storing up oxygen in the body during the night for utilization during the day. The memory is soon impaired, the patient becomes irritable, less spirited, and hypochondriacal. Pain is complained of in various parts of

the body, particularly cramps in the legs. Much less often the trouble commences suddenly and with great severity. The duration of the disease varies greatly, in the very young and in children it is very rapid and fatal; in the adult, however, it is much less so. It is believed that in some cases the disease may exist a long period of time without the patient being hardly aware of its presence. In the generality of cases the progress is onward unless interfered with by appropriate treatment. Grisinger says the usual time is between two and three years, although with proper care this may be prolonged considerably.

Bouchardat thinks that a diabetic properly treated has as much chance of living a long time as a man in health.

Patients most often die from complications as phthisis, pneumonia, catarrhs, gangrene of the leg, acetonaemia, and diabetic coma, the latter, in my very limited observations, the most common and the most to be dreaded.

Diabetic coma occurs late in the disease, and is apt to terminate it. It is generally preceded by a train of nervous symptoms, to which the word acetonaemia is properly applied, while the term diabetic coma should be used to express the last condition. The acetonaemia and coma are supposed to be produced by the accumulation of the blood of acetone, or acetone producing substances, acetoacetic acid.

The phenomena attending acetonaemia are various, as headache, dimness, drowsiness, delirium, severe pain in the stomach, and epigastrium, and also in the intestines, vomiting, and diarrhoea, cramps in muscles, &c. A peculiar kind of putrid dyspnoea attends this condition. The breath, and at times the urine give off a peculiar odor described before. The symptoms may occur suddenly, or be quite gradual in their appearance. Some writers have attempted to deny the acetone poisoning and ascribe the symptoms to aceturia. I think any one who has witnessed the two conditions will need no argument to make him acknowledge their difference. Ralph has observed similarity to the close similarity of symptoms accompanying acetonaemia, and those of yellow atrophy of the liver from acute phosphorus poisoning. The same yellow, sharp, epigastric pain, the vomiting and gastric disturbances, the peculiar putrid respiration, the delirium followed by the coma, the irregular and feeble pulse, are all common to both diseases.

Tyson speaks of a diabetic neuralgia, characterized by chiefly attacking the inferior dental and trigem. nerves, and is very obstinate.

The blood, which actually contains a small amount of sugar, is in diabetes much richer in this substance, so much so that the plasma which has a normal specific gravity of a 1.025 has been found to be as high as 1.033, also, fat has been recognized to be present in such quantities at times, as to impart a silky appearance to the plasma; from this cause, probably, arise the fatty embolisms found in the capillaries of the lungs as described by various writers.

It is a suggestive fact to know that in febrile conditions of the system the quantity of sugar in the urine of the patient is decidedly diminished.

Whether there are varieties of diabetes or not is still an open question; some contend that the disease that attacks fat, elderly people, and which allows them to live in comparative comfort for a long time, is a very different affair from that grave disorder attacking lean people, which speedily causes most profound changes in their nutrition. Others contend that they are the same thing exhibited under different degrees of intensity.

Duquesin Beaumetz says, that from a therapeutic standpoint he would class the patients into three practical groups: the slight, the medium, and the grave form. In the first the sugar would rapidly diminish and disappear under proper treatment; in the second, under the same treatment, the patient would improve, the sugar diminish, but could not be made to entirely disappear; in the third, do what you could by the most rigid diet and appropriate treatment, the amount of sugar would still remain large, and the patient progress to a fatal termination.

PROGNOSIS.

The one great point that establishes the diagnosis of diabetes mellitus is the persistent presence of grape sugar in the urine. As Fothergill says, not every glycosuric man is diabetic, and to establish the diagnosis the patient must be under observation for a sufficient length of time to accomplish this purpose. Of course the conclusion can be much more readily arrived at if the other symptoms, as excessive thirst, hunger, and diuresis are present. The disease most likely to be confounded with this one under con-

sideration is diabetes insipidus, but a chemical examination of the urine will remove this doubt.

I shall not detain you by describing the various tests that are in use for the detection of grape sugar in the urine. The one most commonly used is that known as Fehling's; this test, when properly prepared and carefully used is perfectly satisfactory, and can admit of no error. Professor Austin Flint, Jr., has published an improved formula for making Fehling's solution which I will take the liberty to quote: "For the solution of cupric sulphate, weigh purified sulphate of copper in granular crystals, air-dried, weigh 257 grains (17.32 gms.) of the salt, and dissolve it in about 4 fluid ounces (128 cc.) of distilled water adding about 4 minims (1 cc.) of pure sulphuric acid. Add distilled water to this solution to make 8½ fluid ounces (240 cc.)."

"For the solution of alkaline tartrates, weigh 2 minims, 291 grains (87.5 gms.) of recrystallized sodium potassium tartrate or Rochelle salt, and dissolve it in about 8 fluid ounces (192 cc.) of distilled water. Filter the solution, if necessary, and add to it a clear solution of 888 grains (25 gms.) of caustic soda in about 5½ fluid ounces (16 cc.) of distilled water, add distilled water to this solution to make 8½ fluid ounces (240 cc.)."

These two solutions should be kept in separate bottles for use, if they be made with accuracy and mixed together in equal proportions, two hundred grains of the mixture will be decolorized by exactly one grain of sugar; the liquid can thus be employed for quantitative as well as qualitative analysis. For ordinary use in qualitative analysis, mix in a test tube equal volumes of the two liquids so that the mixture will spread in the tube to the length of about an inch, bring to a boiling point, and then add a quantity of water equal to that of the test, again boil and allow to cool. If no distinct and copious reddish or yellowish precipitate be present, when the test and the urine has become cool, after the second boiling, it is absolutely certain that no sugar is present.

It doubtless goes to its well to employ a variety of tests, and to have the specimen examined a portion of the whole quantity passed during the twenty-four hours. The specific gravity of the urine is not always an indication of the amount of sugar contained, as frequently we have a high specific gravity with comparatively little sugar, owing to the large quantity of urea in the water, arising from the great amount of nitrogenous food consumed and the

rapid waste of the body. Again, we may have considerable sugar with a low specific gravity, and when the circumstances are suspicious, the mere fact that the urine is of low specific gravity should not deter us from investigating for sugar.

It is often very important to know the quantity of sugar passed. This can be easily ascertained by the method referred to when speaking of Fohling's solution, or by Robert's method, fully described in his book on urinary diseases, or very readily by that of Dalmonte, which is specially recommended by Dujardin Reaumez, and the method of apportioning it described at length in his recently published work on Clinical Therapeutics.

The prognosis in confirmed diabetes is bad, especially if the case has gone on a considerable time without attention, for I believe that our hopes of an amelioration or cure are in direct proportion to the early recognition of the disease and a suitable course instituted. Often in its incipency, upon the enforcement of a proper diet, the symptoms will clear up with a most gratifying rapidity, while, if the trouble has been allowed to obtain a firm foothold, it will prove much more rebellious to the best directed efforts. Age and temperament appear to exercise a controlling influence upon the course of the disease. When it occurs in early life, before twenty, it is a very serious affair and generally fatal, but when it affects well-nourished people in middle life the prognosis is much more favorable, while that form that attacks old, fat, gouty people is seldom attended by much discomfort, if they will be careful in their diet. In middle life the prospect is much better for the stout, fat, easy-going ones, than for the thin and nervous.

If the quantity of sugar passed is large, and the digestion poor, the danger is much greater than when the system is able to assimilate a large amount of food, and thereby in a measure prevent the great waste. The appearance of catarrh, caruncle, or gangrene, is very unfavorable; the appearance of albumen in the urine should always excite the gravest apprehensions, as it shows that the kidneys, from the strain and overwork forced upon them, are beginning to break down, and become unable to perform their functions.

PATHOLOGY.

The pathology of diabetes is yet to be written; although numerous post-mortem opportunities have been offered, and experimental physiology has done much to elucidate how the sugar-forming func-

tion of the liver may be disturbed, as yet we have no distinct lesson to point to and say there is the cause of diabetes. Many investigators have found morbid processes which for a time they fondly hoped would solve the problem, but further research has shown them not to be peculiar to the disease.

Experiments in the production of artificial diabetes render it very probable that the primary lesion should be found in those portions of the nervous tract in which the vaso-motors governing the circulation of the liver have their origin, or those nerve tracts by which the vaso-motors may be reflexly excited, and that the secondary lesion would be found in those organs that had been overtaxed in the abnormal production of the sugar, or in its elimination from the body, or in those that had been so immorally robbed of their normal support.

Now the causes and effects are so numerous and varied that it is improbable that we should expect to find exactly the same lesions in every case of diabetes, because diabetes may be produced in a variety of ways operating through the nervous system, and as Tyson says, "there is scarcely an organ in close relation with the sympathetic system derangement of which may not produce it."

Indeed, is it impertinent to question whether diabetes is really a disease *per se*, or should be regarded as rather an expression of various morbid processes by which the normal physiological purposes of the hydro-carbons are perverted, and instead of supplying their appropriate design in the animal economy are by some strange process unused, and accumulating, are as toxic agents eliminating from the body, hereby producing double evil, starving where they should nourish, and overworking where they should support?

Examinations have often revealed pathological changes in the brain and spinal cord, as tumors, extravasations of blood, softening, and degeneration of its substance and vessels. Again, changes have frequently been found in the sympathetic nervous system. Senator says particularly in its abdominal portion, and thinks they would be more often discovered if sought for with microscopes and.

Affections of the lungs are very common—ulceration, phthisis, and gangrene; in this last condition the peculiar gangrenous odor is said to be absent. The liver is frequently diseased, most often enlarged, although at times it has been found reduced in size; by some pathologists the latter condition is supposed to be peculiar to

enlarged mass. The hepatic cells are enlarged, rounded, indistinct in their outline, and appear to *swell*; the organ is often hyperæmic, and its capillaries distended and enlarged.

The condition of the pancreas has of late attracted a great deal of attention from those interested in the study of diabetes; this organ, which under ordinary circumstances is so rarely found diseased, is in the condition under consideration found affected in about one-half of the cases.

It is generally atrophied and degenerated; Senator says that this "seems to be a mere accidental coincidence, and that Klob's view seems best founded, that the co-existence of diabetes and disease of the pancreas depends upon lesion of the cardiac plexus." Either the disease is primary in the pancreas, overgrows on the plexus, destroying its ganglia, and causing diabetes, or else the cardiac plexus is first affected, and in consequence disturbances of the circulation arise in the parts supplied by the cardiac artery, thus causing disease of the pancreas. Which of the views is correct must depend upon future investigations.

The kidneys are usually large and hypertrophic, and show the minute changes we might expect to find in an organ so irritated and overworked.

A great many theories have been offered as to the cause of diabetes, certainly as many as fifty, but they may all be referred, as Dujardin Beaumetz thinks, to three principal ones, first, the hepato-co-intestinal, or alimentary theory; second, the nervous theory; and third the theory of nutritive disturbance. The first theory supposes the glycosuria to be caused by the too great amount of saccharine and starchy food ingested, or from an excessive activity of the digestive ferment, or from increased action of the functions of the liver. The nervous theory had its origin in the renowned experiment of Bernard, in producing glycosuria by puncturing the foot of the fourth ventricle; in support of this theory we have the fact, that in a very large number of cases diabetes has been produced by blows and injuries to the head, by severe and prolonged mental excitement, by intense intellectual labors, by harassing worry and trouble, by grief and disappointment, and by many other causes that produce intense cerebral irritation. Again, in favor of this theory, it can be said that the class of people whom we would naturally expect to be exposed to nervous disturbances

is the very class in which we find diabetes most frequently, viz., the brain-workers.

Bouchardat says that "in every twenty men from forty to sixty years of age, belonging to this class referred to, you will find one glycosuric patient." Now, gentlemen, this fact, if it be true, and I believe it to be from what little observation I have had, is of tremendous significance, and it behooves us to give it our most profound attention. The theory that refers diabetes to disturbances of nutrition is a very broad one, and has considerable support from physiological deduction, and from clinical experience. It is well established that the glycogenic function is not exclusively confined to the liver, but that other tissues of the body possess this property, particularly the muscles; Bouchardat, who strongly supports this theory, very fortunately says "that every circumstance which troubles the utmost processes of assimilation, and of dissimilation of all the tissues, may be a cause of diabetes." I have made no allusion to the pancreatic theory because if primary in the pancreas it could be referred to the digestive theory, and if primary in the coeliac plexus to the nervous theory.

TEATMENT.

Although diabetes cannot be called a strictly hereditary disease, still probably parents transmit to their children a certain tendency that, upon sufficient provocation, will result in glycosuria; therefore the physician who has to do with the family that has this diathesis in its blood will do well to be particularly careful as to the diet of the growing members of the family, and especially to forbid all crowding and overwork of the brain and nervous system.

Children can suffer from worry and nervous exhaustion as well as adults, and as we have seen this to be one of the most frequent causes of the disease in the latter, we should certainly protect the growing child from those noxious influences; particularly when we remember that the disease is so insidious in the young; for their developing bodies can ill afford to be deprived of one of the principal elements of growth. We have seen that the blood in its normal condition contains a small amount of sugar, that is used for the support of the body, but that when this small amount is exceeded, the economy will no longer tolerate it, and that it is passed over into the urine and excreted.

Now as we have not as yet certainly discovered the causes of diabetes, our principal object will be to reduce this excessive amount of sugar in the blood, and this in our present state of knowledge can only be accomplished by a diet free from sugar and sugar-forming materials.

To procure a diet absolutely free from sugar and sugar-making elements, is probably an impossibility, but one can be quite readily devised, sufficiently free from the undesirable substances to serve all practical purposes. This dietetic treatment, first introduced by John Bido in the latter part of the last century, and within our memories elaborated and perfected by Bouchardat and others, must always engage our first attention in the consideration of diabetes, and I will here say, that no hard and fast rule can be laid down as applicable to the diet of every victim of this disease, but that each case must be treated upon its own individual characteristics. Some will tolerate a very much more stringent course than others. Our guide should be that the appetite be not destroyed, and the nutrition too much interfered with, also, that the amount of sugar in the urine is diminishing, and not increasing; to properly appreciate this, a quantitative examination should be instituted every two or three days.

In forming our diet tables, we may divide the list into two parts, those to be strictly forbidden, and those to be conditionally allowed. Those to be strictly forbidden are cane sugar, grape sugar, beet sugar, starch, and such substances as can be converted into grape sugar in the system. Among those conditionally allowable are certain saccharine food which seem to be capable of resisting the conversion into sugar, as lactine, or sugar of milk; mannite, or sugar of manna; inulin, a starchy principle in Iceland moss; the sugar of some fruits; inosite or muscle sugar; glycerine and fatty substances. The propriety of giving these conditionally allowable substances, can only be determined by a constant examination of the urine.

When milk agrees, and the sugar of milk is assimilated, there is probably no diet that will fulfill all the indications for a diabetic as well as a milk diet: the milk may be peptonized, or it may be mixed with lime water in various proportions; or if the sugar of milk acts badly, we may convert the milk into Kумыс, which free it from lactine. In 1868, Dockin introduced the skim milk treatment, and claimed great success for it: a skim milk course is

extremely disagreeable, and most patients refuse to continue it. It causes no possible advantage over the ordinary milk treatment, with the modern modes of its preparation. It is well to encourage the diet rather gradually, and to let the patient's inclination and power of digestion regulate the amount. The milk may be taken either warm or cold, as most agreeable; a delicate stomach can often take a tumbler of warm milk as ripe with comfort and benefit, while the same if swallowed cold in one or two gulps would produce much distress and indigestion.

The diet tables published by various authors differ very slightly (excepting Chalmers, to whom I will allude further on); they all allow meat of all kinds except liver; fish of all kinds including shell fish; all soups made without watchy substances or vegetables that are indigestible; all animal broths with the same restrictions; poultry and game of all kinds; of course all jellies or sauces containing sugar or starchy substances must be omitted. Vegetables, as cabbage, cauliflower, brussels sprouts, brocoli, green string beans, asparagus, spinach, dandelions, amaranthus, lettuce, endive, cold-chow, olives, cucumbers, radishes, young onions, water cresses, mustard and cress, turnip tops, and most any other green vegetables, except peas. The vegetables to be particularly avoided are, potatoes of all kinds, rice, beans, carrots, turnips, parsnips, peas, beans, and all other vegetables known to contain saccharine or amyloseous substances in any quantity.

The fruits that can be taken are cranberries, plums, cherries, gooseberries, red and white currants, strawberries, and some apples; they may be eaten raw, or stewed with bicarbonate of soda instead of sugar, which will remove the excess of acidity, and render them very palatable, about a teaspoonful to the pound of fruit. Eggs in any quantity, and cooked in any fashion except where sugar or starch would be used; meat of all kinds except chabotatic condiments of all kinds prepared with the restriction above noted; jellies, none except those unfermented; bread and cake made of gluten, bean, almond flour, or insulin. In obstinate cases often all bread will have to be for a time omitted. Bread is the one article which causes most trouble in arranging a diabetic's diet, than perhaps all the rest put together. Almost every one has been accustomed to use bread freely at every meal from their earliest youth, and to be suddenly deprived of this valued article of diet is a hardship to which they are very unwilling to submit.

Now, as ordinary wheat flour contains a large amount of starch, it is absolutely necessary to the successful treatment of diabetes that it be omitted, and some of the substitute flours be used; great care should be employed in selecting these, as many of the articles offered are wretched frauds, containing often more starch than ordinary wheat flour.

You drink, tea, coffee, cocoa, etc., with cream or milk, but no sugar, also milk plain, or prepared as above mentioned; all the mineral waters, particularly the alkaline ones, with great benefit; the acid wines and the unfermented distilled liquors, when they are not otherwise contra-indicated; no ales or malt liquors of any kind.

It is well known that the oyster is composed almost entirely of pure glycogen, and that it has been allowed a place in most of the diet tables, has always seemed to me a mistake. From the articles above mentioned, a good and ingenious cook can arrange a very acceptable and appetizing bill of fare, and happy the diabetic that has such a one at his disposal.

Cantani in his lectures says "that diabetes is a disease easily curable, provided the treatment is not commenced too late." He lays down the following diet tables, which can be found at length in Dupanloup Beaumont's Therapeutics:—Broths of all kinds, meat of all kinds except liver, fowl and game, fish, frogs and crustaceans, salt or canned meats, and fish, but in moderation. All the above may be either broiled, roasted, boiled, or fried in fat, and suited to the taste. They may be seasoned, but no sugar or starch must enter into the composition of the seasoning ingredients; also no wine, vinegar, butter, or lime juice; olive oil and animal fats may be freely used, and dilute acetic acid may be substituted for vinegar, and citric acid for lime juice.

The quantity of food should be about 600 gms. a day, and more if the patient insatiates. In cases where distention is pronounced, and in very lean patients, from 60 to 240 grams of pancreatized fat are given daily.

Drink water pure, or with a little sulfur water, to which from ten to thirty grams daily of rectified spirits may be added, and some aromatic water if desired. If, after a month's trial, this regime does not cause the glycosuria to disappear, it will be well to make the patient fast twenty-four hours, taking nothing but water, and even this breath. Then the above to be resumed, but in half the

quantities; little by little it is increased to the former quantity. If the glycosuria re-appears, another day of fasting, then the full diet again, which is not to be increased unless the patient is doing well. This regime should be rigorously persisted in for two months in light and recent cases, and for three, six, or even nine months in the severer ones. After a patient has passed two months without any sugar in the urine, a very gradual return may be made to a more liberal diet, but upon the least re-appearance of glycosuria, the treat regime must be resumed in all its rigor."

This is a most severe regimen, and if a patient could be induced to adopt, and continue with it, he would most certainly have the right to expect all the benefit that could be obtained from any system of diet. Castani also recommends lactic acid to be freely used, both for its therapeutic effect and as a pleasant drink. His formula is,

- R. Pure lactic acid, 5 to 20 grammes.
Peppermint water, 20 to 30 grammes.
Spring water, 1 litre.

This quantity to be used in divided doses during the twenty-four hours; we should always be mindful of the danger of inducing rheumatism by the ingestion of such large quantities of the acid.

Some patients complain very much of the deprivation of sugar in their tea or coffee. It has been proposed to substitute glycerine, but this is not allowable in all cases, for at times it will cause a decided increase of the sugar; the revelation of the two-tube test is the guide. When glycerine is inadmissible mannite may be used.

Dr. Austin Flint, Jr., in 1884, published a pamphlet upon the treatment of diabetes in which he arranged the articles, permitted in the form of a bill of fare, making a separate one for breakfast, dinner, and supper; it is most valuable and convenient.

In the hygienic treatment, the first thing that the patient should seek to obtain is pure air both night and day. He should sleep in a large room properly warmed in the winter either by a register, stove, or still better, an open grate, and have a window opened, if possible so situated that the air cannot blow directly upon the bed; if this is not feasible have a window opened in an adjoining room, or hall, and be the door between the two remain open. The opening of a window in the winter does not necessarily imply an undue

temperature; warm the room as much as you please, but keep the air pure; it is pure air you want, not cold air. It is singular what a prejudice the average man has to pure air, particularly at night; in fact I believe that more diseases are induced by breathing impure air nights, than almost all the other causes of sickness taken together. During the day the more time passed out of doors the better.

Next of importance is attention to the skin; keep it clean by some kind of bath daily, the kind chosen adapted to the strength of the individual. It is well to avoid too cold baths, and especially prolonged ones, the man who takes a daily bath should never spend over two or three minutes in the tub; of course thorough drying and friction of the body should follow. The alkaline bath, made by adding a small handful of washing soda to the tub of water, is at times most grateful and refreshing. I will incidentally remark that the man who will breathe pure air night and day, and keep his body clean, can endure many sins both of omission and commission with comparative impunity.

Exercise is a most important factor in the well-being of a diabetic; this should be taken systematically and often, but always short of fatigue; as far as possible it should be in the open air, walking, riding, hunting, gardening, playing of games, etc.; the more amusement combined with it the better, but always remember to avoid exhaustion.

The clothing should be light, but warm; it is well to wear woollens next the skin, for it is a well-known fact that the temperature of the body in diabetes is generally sub-normal.

The digestion should be carefully watched and a healthy action of the liver maintained if possible, and the constipation which is often a troublesome feature combated by appropriate measures. The quantity drunk must be regulated by the thirst, but an effort should be made to keep it within reasonable limits. Certain mineral waters are of great benefit, especially those that are slightly alkaline, as the Vichy, Carlsbad, Saratoga Vichy, and many others. I have seen the most agreeable effects produced, both in quenching the horrible thirst, and removing the tormenting dryness of the mouth and tongue, by the free use of the Bethesda waters; I believe the spring is in Wisconsin. I know of nothing that will give as much comfort in the above condition as the drinking of this water.

When we have learned the real pathology of diabetes, we may perhaps be enabled to treat it scientifically with drugs; until then their employment must be theoretical and empirical. We have, however, the recorded experience of many careful observers of the value of certain remedies that in their hands have proved of benefit in this condition, and without which the most rigorous enforcement of dietetic and hygienic measures had failed to produce the desired results.

The alkalies should perhaps occupy the first place; to be sure we have no very clear conception exactly how they produce their benefits but all experience is strongly in our favor. Probably the springs that have attained such great reputations for the successful treatment of diabetes owe their value to the alkalinity of the water, but as all cannot go to the springs, the water can be used at home, or in those places alkalies of other forms; one of the best is the bicarbonate of soda which may be taken freely, three or four teaspoonfuls in glass of aerated water, during the course of the day. The tartrate or citrate of soda in about the same doses may replace the carbonate. Boussingham is so impressed with the value of alkalies that he advises they be mixed with bread instead of common salt.

Opium has enjoyed a great reputation; it is usually well tolerated and frequently in very large doses. Dr. Ferriy in 1850 recommended codex, and its use has become very general, many preferring it to opium, or any of its other salts. When opium or codex do not cause indigestion, their use is generally attended with much comfort and benefit. My beloved preceptor and friend, Dr. Fendyoe Barber, who has had most marked success in the treatment of diabetes, tells me that he considers opium and codex productive of the most valuable results in the treatment of glycosuria.

Arsenic has had many advocates, and some of the experiments of Quinquaud recently recorded seem to place its use upon a scientific basis. Fowler's solution is the best form to administer it, and authorities say that large doses are of advantage, provided none of the unpleasant effects of arsenic are observed. He has a preparation called arsenic of bryonia, or Chomieu's solution, a dose of which is from three to five drops three times a day immediately after eating, has come into quite general use, and has found many warm supporters. I have used it a few times apparently with ben-

eff. The use of the bromides has been strongly advocated; they were first used by Begbie, and very much praised, the pleasant effects observed are probably produced much in the same manner as those effected by cod-liver oil.

In debilitated and anæmic subjects iron is of undoubted service; cod liver oil is a remedy of very great value, and when the patient is debilitated and thin, the happiest results may be expected from its use; it is best given in moderate doses about one hour after eating, floated upon the surface of some agreeable vehicle and swallowed in one gulp. If the lips are wiped dry and clean before rising, and a few particles of salt placed upon the tongue, no disagreeable taste will be experienced. Hundreds of other drugs have been recommended, only after a short time to pass to oblivion.

It is a well recognized fact that glycosurics form bad subjects for surgical operations, and only in extreme necessity should they be performed; even the prick of the hypodermic syringe has been productive of evil.

The complications that may occur require treatment somewhat modified, from the fact that the patients are glycosurics. The affections of the mouth and caries of the teeth can in a measure be prevented and combated by the use of alkaline mouth washes. Strychnia frequently furnishes valuable assistance in cases of feeble digestion. Cataract, which is quite common, should be operated on early. The neuralgias can be relieved by large doses of cod-liver oil combined with quinine. Boils and carbuncles are probably best treated by small doses of sulphide of calcium, often repeated, say one tenth grain every hour for a few days, and topically by slight incision, and the application of pure carbolic acid by means of a small camel's hair pencil. In inflammation of any internal organ, stimulants should be freely administered.

If acetonæmia threatens, every effort must be made to check the fermentative processes to which it owes its development. The stomach and intestines should be emptied of their contents as quickly as possible, and some of the medicines that are supposed to have an anti-fermentative action administered, tartaric acid, salicylic acid, thymol, and that class of remedies have been proposed, but in my judgment the alkaline bisulphites would fulfil the indications much more effectively. I would employ about two

grains of the bisulphite of soda in some aromatic water, every hour or even every half hour if necessary. If the taste of the bisulphite is objectionable, the sulphocarbonate of soda might replace it, used in the same way and dose. A long use of these remedies has convinced me of their sustainable value in the treatment of all zymotic diseases.

It has been proposed to inject alkaline solutions into the veins, and thus endeavor to prevent the acid fermentation in the blood.

Gentlemen:—In presenting this sketchy review of diabetes I have not had the arrogance to appear in the role of an instructor, nor the vanity to suppose I have said anything unfamiliar. My object has been forcibly to bring to your attention a disease I believe to be on the increase, that increase selecting the most valuable portions of the community, particularly affecting our able professions. These considerations must be my apology for having occupied so much valuable time this morning.

DISSERTATION.

ON THE TREATMENT OF LACERATION OF THE CERVIX UTERI, WITH HISTORIES OF TWENTY-SIX ORIGINAL CASES.

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The cervix uteri is injured during parturition in about sixty per cent. of cases, or in about the same ratio as the perineum, so that the statement that the multiparous cervix is always nodular or fissured, which has been faithfully copied from one obstetric textbook into another, should be somewhat modified.

I have taken notes of recent careful examinations of nineteen multipare in which no injury has been sustained by the cervix during parturition:

Case	I.	Age, 46.	No. children, 2.	Cervix normal
"	II,	" 39,	" 2,	"
"	III,	" 39,	" 1,	"
"	IV,	" 36,	" 1,	"
"	V,	" 32,	" 4,	"
"	VI,	" 31,	" 1,	"
"	VII,	" 31,	" 2,	"
"	VIII,	" 28,	" 2,	"
"	IX,	" 35,	" 1,	"
"	X,	" 19,	" 1,	"
"	XI,	" 53,	" 3,	"
"	XII,	" 45,	" 2,	"
"	XIII,	" 29,	" 1,	"
"	XIV,	" 35,	" 1,	"
"	XV,	" 33,	" 1,	"
"	XVI,	" 25,	" 2,	"
"	XVII,	" 63,	" 10,	"
"	XVIII,	" 23,	" 1,	"
"	XIX,	" 31,	" 2,	"

The time to ascertain whether the cervix has been lacerated or not is at the end of six weeks or two months after parturition, and it is a duty we owe our patients to make such examination at this time, if symptoms of a poor getting up, otherwise inexplicable, are present.

"Until recently this condition of laceration was universally mistaken for ulceration, and sometimes for the early stages of epithelioma, and for corroding ulcers of the uterus. To treat this ulceration would long baffle every mode of treatment, or, if any improvement took place in the patient's condition after a protracted rest in the recumbent position, a relapse would follow again and again with every attempt at exercise. Such a case passed from one physician to another until eventually the leucorrhœa ceased, and the profuse menstruation diminished as the surface, from the repeated application of caustics to the cavity, became cicatricial in character.

"Nevertheless a woman in this condition gradually became a confirmed invalid, while the hypertrophy of the uterus resulted, and from impairment of her general health the nervous element became most prominent."—*Brown's Principles and Practice of Gynecology*, p. 459.

We may instructively divide laceration of the cervix uteri into three classes:

I. Those in which the laceration is complicated with eversion and granular erosion with attendant leucorrhœa and congestive hypertrophy, with or without nervous prostration and spinal irritation. Follicular degeneration is frequently present, also secondary retroversion or prolapsus. In this class the laceration is either lateral or bilateral.

II. Those in which there is no decided eversion and erosion, but nervous exhaustion and spinal irritation, with anæmia, loss of general health, and sterility.

In this class the laceration is usually more superficial, frequently stellate, with considerable cicatricial material, or infrequently lateral or bilateral.

III. Those in which not only are eversion and erosion absent, but also all symptoms whatever, unless it be sterility, for which the patient seeks relief.

In this class the laceration is quite superficial and stellate, or anterior or posterior when it may be of considerable depth.

"It is very rare for any bad effects to remain after laceration, either backward or forward."—*Emmett*.

In the first class two methods of treatment are available. *a*. Medical consisting in the use of astringents, rest, vaginal douches, and repeated puncture of degenerated and occluded mucous follicles.

b. Surgical, by trachelorrhaphy, following efficient preparatory treatment.

It is indeed strange, as Emmett remarks, that Bennett, who accurately described this lesion, and appreciated its importance, failed to discover this operation.

While prolapsus and retroversion are always benefited by trachelorrhaphy, they are not thereby cured, but require subsequent treatment by appropriate pessaries.

"When retroversion has existed, and a pessary has been used, it is best, as a rule, to remove the instrument at the time of operation, and to replace it only when the patient begins to stand upon her feet."—*Emmett*.

"The use of a pessary to sustain the heavy uterus is after advisable for two or three months after recovery."—*Thoms* "*Diagnosis of Women*."

In the second class, trachelorrhaphy is practiced by Emmett and hosts of followers, with alleged entire relief of the accompanying nervous and general symptoms, said to depend entirely upon electrical tissue in and around the angle of the laceration.

"Notwithstanding, I have experienced disappointment in not gaining, in a number of cases, all that I had expected. I have in many instances obtained such remarkable results that I have been more satisfied with my practice in this line than under other circumstances where cause and effect seemed more closely related."

"We cannot ignore the clinical fact, which has been observed by many, that after nature has repaired the injury by partially or completely filling the gap between the lips by cicatricial tissue formed in the process of healing by granulation, marked reflex disturbance will sometimes be established. Moreover, it has been frequently noticed that a persistent anemia co-exists with this condition which gradually disappears after this tissue has been removed."

"After having accomplished, by local treatment, all that can be gained in healing the lacerated surfaces, and in the removal of the cellulitis, the question presents itself as to the proper class of case

for the permanent cure of which the operation should be resorted to. I should state, in a general way, that when reflex symptoms exist, with enlargement of the uterus, after the cellulitis has been fairly removed, and when the woman suffers from neuralgia or persistent anæmia, an operation is necessary, notwithstanding the parts may have healed completely, and the thorough removal of the diseased tissue from the angles is absolutely necessary for success."—*Goodell*.

I do not operate in this class of cases, having found the results unsatisfactory and not permanent, but prefer rather to follow the methods employed by Weir Mitchell, for nervous exhaustion and spinal irritation, combined with appropriate medical treatment of any slight erosion which rarely may co-exist. The presence of such cicatricial tissue around a laceration, and the presence of nervous trigs thereon, has not as yet been microscopically demonstrated. I will quote again in quote from Goodell:

"Of the beneficial results of the operation of trachelorrhaphy I must candidly admit that I am not now so sanguine as at first. Cases have disappointed me; but these, on the other hand, I have undoubtedly operated on some cases unnecessarily. The broad rule may be laid down that when marked ectropion exists, associated with enlarged Nabothian glands, with leucorrhœa and menorrhagia, the issue of the operation will be a happy one. In such cases I have had capital results. Where, however, I have operated on a tear without ectropion, or merely on account of cicatricial tissue in the angles of the fissure, I have met with bitter disappointments. But I now know better when to operate; and the fact I have learned, that nervous exhaustion and spinal irritation will excite symptoms which others, as well as myself, have referred to slight cervical tears, but which are in no wise dependent on these lesions."

In the third class, it is unnecessary to call the attention of the patient to the lesion, and suffice to resort to trachelorrhaphy, induce sterility, otherwise inexplicable, to a source of unhappiness, when the operation becomes justifiable, although little hope of so curing the sterility can be held out.

"It is because the rule of practice that all cervical lacerations should be closed without reference to their pathological influence, many women will be exposed to operation without cause, and without compensation."—*Thomas*.

"The simple existence of a fissure in the cervix does not justify an operation for its closure, nor should the operation ever be resorted to except for the relief of symptoms which have remained after the accepted treatment has been employed without apparent benefit."—*Knapp*†

It is unnecessary for me to speak of the operation itself, or its preparatory treatment, since their description given by Knapp in his masterly article upon laceration of the cervix uteri, is complete.

When one is worried by failure, or in doubt in a peculiar case, this article will always afford consolation and profit.

Following Dr. James H. Hunter of New York who initiated, and has successfully practiced trachelorrhaphy and perineorrhaphy at one sitting, I now do his double operation.

In such cases the perineal suture should be taken out upon the eighth day, and the cervical suture upon the fifteenth day, when the new perineum will safely bear retraction by Sims' speculum.

By this practice a patient is spared the fatigue and expense of a second operation.

The practice has against it the weight of Knapp's authority, who says: "These operations should be done separately, for it is not good practice to attempt to operate on the lacerated cervix, and at the same sitting close the perineum."—p. 680.

I will now relate brief histories of twenty-six cases of laceration of the cervix uteri from my service in the New Haven Hospital, treated in a general ward with unfavorable hygienic conditions always present, chief among which is the constant presence of chronically suppurating wounds.

CASE 1.

F. H., aged 35; mother of three children—youngest six years old; deliveries natural; menstruation regular and scanty; blood tinged menses less than for over a year; severe lower-pain; is nervous, and general health is poor; has suffered with inflammation and ulceration of womb for three years, during all of which time she has been treated by another physician with local applications and general tonics without marked improvement. I treated this case two months with slight improvement, and then sent her into the hospital for operation. Uterus retroflecte, antverted three and one-fourth inches in length; cervix large; tight retraction to vaginal junction with eversion and erosion; no polypic collations or polypsoids; trachelorrhaphy performed four sutures; removed eighth day; union perfect; os. ex. of normal size; slight cervical endometritis remains; erosion and erosion cured.

CASE II.

M., aged 27; mother of four children; two abortions; three instrumental deliveries; children weighing respectively twelve, fourteen, and sixteen pounds; menstruation normal; leucorrhœa mucous-purulent; anterior vaginal wall prolapsed outside vulva, looking like skin; uterus movable, two and three-fourths inches long; axis normal; prolapsed third degree; bilateral laceration of cervix to vaginal junction on each side; no pelvic peritonitis or cellulitis; a fibroid polypus hangs from os. ex., one and one-half inches; it is three inches long, attached to posterior wall of uterus; anterior vaginal wall and cervix have been outside vulva for eighteen months; complaints of nothing except discomfort and leaning down from the polypus; general health is good. I removed the fibroid with scissors, and ten days later did double trachelorrhaphy (after one week's preparatory treatment) four stitches upon each side; removed stitches upon eighth day, both lacerations completely united; cervix and os. ex. of normal size. Twenty-four days after operation, fitted pessary pessary, and discharged patient cured, except of polypus. Before the operation, pessary seated in the figure, and caused intolerable irritation.

CASE III.

C. B., aged 22; mother of one child, now six months old; instrumental delivery; no abortions; has menorrhagia and constant backache; profuse constant mucous-purulent leucorrhœa; uterus movable, two and three-fourths inches long; axis normal; small amount of erosion and granular erosion; laceration of cervix on right side to vaginal junction; no pelvic cellulitis or peritonitis. Since birth of her child menstruation has been profuse for three days, followed by slight oozing of blood until succeeding period. Leucorrhœa and backache have never been absent during this period. A month's treatment produced slight improvement only. Trachelorrhaphy performed (preparatory treatment for three weeks), four stitches; removed upon seventh day; union perfect; cervix and os. ex. normal; discharged cured.

CASE IV.—SENT BY DR. M. C. WHITE OF NEW HAVEN.

B. C., aged 28; mother of three children — youngest sixteen months old; deliveries natural; no abortions; suffers from menorrhagia; leucorrhœa scanty, mucous, and bloody; severe burning sensation in hypogastrium and groins, which is increased by prolonged sitting; uterus movable, two and three-fourths inches long; position and axis normal; laceration of cervix, left side; eroded, excoriated, and bleeding from gentle touch; areolar hyperplasia of cervix; no pelvic cellulitis or peritonitis; general health good. During last five months she has suffered from menorrhagia, and also constant oozing of small amount of blood, attended by burning pelvic pain. Last labor was tedious, and she is pos-

time that her physician inserted his hand into the cervix and uterus to hasten dilatation. Preparatory treatment for three weeks; trachelorrhaphy, five sutures; removed upon the eighth day; union has taken place in a line only one-fourth of an inch wide. Patient suffered from vesical irritation, and strained severely in passing hardened feces. Operation is a failure, and must be repeated.

CASE V.—SENT BY DR. BALDWIN OF BIRMINGHAM.

B. S., aged 40; mother of five children—youngest five years old; no abortions; deliveries normal; suffers from metrorrhagia with excessive loss of blood; constant, very profuse menometrorrhagic hemorrhages; severe bearing sensitive and bearing-down pain in pelvis, and lower abdomen; uterus movable, three and one-eighth inches long, ante-flexed; cervix large, lacerated bilaterally to vaginal junction, with both lips everted and completely eroded and covered with mucus-pus, and looks like a large strawberry; no pelvic cellulitis or peritonitis; general health very poor, extremely nervous and irritable, and much emaciated. Her suffering dates from birth of last child two and one-half years ago. She has pelvic pain, backache, severe headache, metrorrhagia and constant profuse hemorrhages. Intermittent pains often lasting two or three hours. Preparatory treatment for five weeks; double trachelorrhaphy four sutures on right side, three upon the left; uterus removed upon eleventh day; union complete; case cured.

CASE VI.—SENT BY DR. N. P. TOWN OF NEW HAVEN.

H. W., aged 35; mother of one child now two years old; delivery normal; one abortion, sixth month; every other period is excessive; menometrorrhagic hemorrhages constant; suffers pain in back and right inguinal region; uterus movable, two and five-eighths inches long, in second degree of retroversion and prolapse; stellate laceration with four points present, both lips of cervix in state of granular erosion; no erosion; no pelvic cellulitis or peritonitis; comes on account of constant pain and hemorrhages. I treated this case with applications and retroversion pessary for three months, succeeding in healing about two-thirds of the eroded tissue, and in relieving the retroversion, but I could get no farther towards a cure, therefore stopped treatment, and advised trachelorrhaphy if case became worse; did not repeat again.

CASE VII.—SENT BY DR. WELCH OF ASTORIA.

M. D., aged 33; mother of one child now three years of age; no abortions; powerless labor; forceps delivery; suffers from metrorrhagia and constant menometrorrhagic hemorrhages, severe coccygeal pain; uterus two and one-half inches long, movable; axis normal; chronic cervical ectenitis is present; no erosion; no displacement; double laceration to vaginal junction; post lip smaller than anterior; since

delivery has suffered constantly from leucorrhœa, and dull pelvic pain, increased by work and gangrenopains; no pelvic catarrh or peritonitis; no preparatory treatment; trachelorrhaphy double, three sutures upon each side; sutures removed upon the sixth day; both lacerations fully united whole length; good result; discharged cured.

CASE VIII.

L. B., aged 26; mother of five children — youngest seven months old; deliveries normal and easy; no abortion at sixth month; menstruation regular and easy; slight mucous leucorrhœa; uterus movable, soft, normal, two and three-fifths inches long; chronic cervical endometritis; laceration on left side of cervix one-half inch long; both lips in state of granular erosion, bleeding when touched; no erosion; no pelvic catarrh or peritonitis; general health poor, is anæmic. Fourteen days after her miscarriage treated her housework while losing blood from the uterus, and there has been an almost constant loss of blood in small quantity ever since, for the relief of which she entered the hospital. Was treated for six months and then discharged, with erosion nearly healed, and without any bloody discharge. Lips are easily everted, and probably erosion will return. Improvement will not be permanent.

CASE IX.—SENT BY DR. RUSSELL, WALLINGFORD.

S. W., aged 22; mother of one child, fifteen months old; delivery normal; no abortion at fourth month, three weeks ago; menstruation regular and normal; considerable mucopurulent leucorrhœa; moderate pain in pelvis and sacral region; uterus movable, prolapsed, and retroverted to first degree, two and five-eighths inches long; laceration on right, five-eighths inch deep; posterior lip in state of granular erosion; chronic cervical endometritis; no pelvic catarrh or peritonitis; for four months has suffered from backache, much debility, and leucorrhœa, and comes to hospital on account of these symptoms and a bearing-down feeling in the pelvis. Preparatory treatment for three weeks. Trachelorrhaphy, three sutures; removed upon seventh day; laceration united; discharged anæmic, and not strong, with erosion cured, and without pelvic pain or backache. Fitted pessary for retroversion, which caused pain. In no way to be postponed for two months.

CASE X.

R. C., aged 21; mother of one child, eight months old; delivery normal; belows labor; child weighed ten pounds; menstruation normal; profuse mucopurulent leucorrhœa since birth of her child; dull, aching, sacral pain; uterus movable, two and three-fifths inches long, anteverted to first degree; cervix, laceration upon left side, and two superficial fissures to right; stellate laceration; no erosion; small erosion on

anterior lip; cervical endometritis; no pelvic cellulitis or peritonitis; perineum presents laceration one inch long; vagina subinvolved; some prolapse of anterior wall; general condition good; somewhat anemic; has felt since birth of her child "as if her pelvic organs were slipping out," and has worried about loss of strength and constant hemorrhage; no pelvic peritonitis or cellulitis; trachelorrhaphy and perineorrhaphy indicated, and done at one sitting; principal fissure on left side was cut to vaginal junction, and closed with three sutures; four sutures in perineum; perineal sutures removed upon the tenth day; union firm and complete; cervical sutures removed upon the twelfth day; laceration firmly united; cervix small; granular erosion cured.

CASE XI.—SENT BY DR. SHIELDS OF SUMNER.

M. B., aged 24; mother of three children—youngest five years of age; first labor tedious, others normal; one abortion; menstruation regular and normal, slight menorrhoea; perineum one-half inch long; posterior vaginal wall slightly prolapsed; vagina subinvolved; uterus movable, retroverted to second degree, three inches long; cervix lacerated upon left to vaginal junction; lips everted, but not eroded; no pelvic cellulitis or peritonitis; pain and tenderness along the spine, and nervous exhaustion. General condition poor, from long confinement to bed; whole muscular system much atrophied. Following the births of her children, which occurred at short intervals, came prostration, and an attack of sporadic, after which she could not stand or walk, from loss of power in her back. The two following years she spent in bed, constantly suffering from pain and tenderness along the spine, and tenderness over the cervix. No preparatory treatment; trachelorrhaphy upon left side, three sutures. Perineorrhaphy at same sitting, four sutures; perineal sutures removed upon eighth day. Union firm and complete. Cervical sutures removed upon the fourteenth day; laceration united; cervix and os, ex. normal; no leukoea. Discharged in sound condition, for which continuance of massage is indicated, and change of air to seaside. The spinal irritation will probably return, unless the anemia is cured. I doubt its dependence upon the lacerations.

CASE XII.—SENT BY DR. PLATT OF THURSDOWN.

M. E., aged 24; mother of two children—younger two years of age; deliveries normal; no abortion; menstruation regular and normal; constant systemic leucorrhoea; perineum atrophied, lacerated one-half inch; uterus movable; axis normal, two and three-fourths inches long; laceration of cervix upon right side one-half inch deep; no erosion; slight erosion around laceration; no pelvic cellulitis or peritonitis. General condition good; has suffered from pelvic pressure and constant leucorrhoea. Preparatory treatment for one month, carried out by Dr.

PLATE. Trachelorrhaphy, two sutures; perineorrhaphy, three sutures, at same sitting. Perineal suture removed upon seventh day; union firm and complete. Cervical suture removed upon the thirteenth day, laceration is healed completely. Discharged cured.

CASE VIII.—SENT BY DR. LEIGHTON OF NEW HAVEN.

M. L., aged 21; mother of one child, now ten months of age; instrumental delivery; no abortion; menstruation regular and normal; constant leucorrhœa, usually mucous, sometimes blood-tinged; constant dull pelvic pain; vagina large, introverted; perineum lacerated, one-half inch, quite firm; uterus movable; axis normal, two and three-fourths inches long; bilateral laceration of cervix half way to vaginal junction upon right, to vaginal junction upon left; lips everted and eroded, bleeding when touched; no pelvic cellulitis or peritonitis. General condition good; some anemia. Same delivery has had constant leucorrhœa, sometimes bloody, quite profuse, and has suffered pain during and after coition. Walking causes sensation of fullness and pressure in pelvis. Preparatory treatment for one week. Double trachelorrhaphy, four sutures upon left side of cervix, and two upon the right. Sutures removed upon tenth day; laceration on left side nearly healed—on right side, not at all; considerable erosion and erosions remain; result is a fallure, almost complete. Should have insisted upon preparatory treatment for six weeks or two months, although patient could ill afford the expense. Discharged, with note asking her physician to treat by astringents, and, if cure failed, to send her back for another operation.

CASE IX.—SENT BY DR. LOOMIS OF BIRMINGHAM.

E. L., aged 23; mother of four children—youngest two and one-half years of age; no abortions; deliveries normal, except second, which presented by a shoulder, and was delivered by version. Menorrhagia, considerable blood lost every two weeks; moderate mucous leucorrhœa; perineum one-half inch long, and firm; uterus movable; anteverted to first degree, and anteflexed two and three-fourths inches long; cervix lacerated to vaginal junction upon right side; erosion and granular erosions of both lips, which are thickened by hyperplasia, chronic cervical ectometritis; no pelvic cellulitis or peritonitis. General condition fair; has suffered from malaria, and is anemic; suffers from pelvic discomfort and bearing down, which are increased by walking, riding in cars or a carriage, and by work; constant leukœnia. Has been treated unsuccessfully. Preparatory treatment for one week. Perineorrhaphy thought to be unnecessary; trachelorrhaphy upon right side, four sutures; removed upon tenth day; laceration perfectly healed. Cervix and os, &c. are normal. Discharged, feeling quite well.

CASE XV.—SENT BY DR. LUDWIG OF BIRMINGHAM.

M. R., aged 54; mother of three children—youngest two years of age; no abortion; menstruation since six weeks; constant mucous leucorrhoea; dull pain in loins and in left inguinal region; perineum normal; uterus movable, anteflexed a little, position normal, three inches long; cervix lacerated to vaginal junction on left side, and slightly upon right side; lips everted and in state of granular erosion, the granulations pale and fatty; no pelvic cellulitis or peritonitis; is very nervous; has been miserable since birth of last child, with backache, pelvic pain, and considerable constant leucorrhoea. Treatment has been unsatisfying, and comes for operation. Preparatory treatment thirteen days; trachelorrhaphy, four sutures upon left side, one upon right; sutures removed upon eighth day; laceration perfectly healed; cervix and os. ex. normal, with a little ring of erosion around the os.

CASE XVI.

M. H., aged 31; mother of five children—youngest five years old; deliveries normal; no abortions; menstruation normal; considerable constant mucous leucorrhoea; uterus movable, axis normal, three inches long; laceration upon left side to vaginal junction, granular erosion of both lips; no pelvic cellulitis or peritonitis; general condition good, although somewhat anæmic. Has suffered since birth of last child from backache, leucorrhoea, and weariness, which has increased during last year, and also from bulging of posterior vaginal wall during debilitation, feeling as if old time support of this tissue had disappeared. No preparatory treatment. Trachelorrhaphy upon left side, four sutures; perineorrhaphy at same sitting, four sutures; perineal sutures removed upon eighth day; laceration completely healed; perfect union; cervical sutures removed upon twelfth day; laceration healed; union firm and sound; cervix and os. ex. normal; discharged cured.

CASE XVII.—SENT BY DR. COCKERILL OF ARMSLEY.

M. J., aged 22; mother of five children—youngest seventeen months old; four deliveries normal; last one instrumental; no abortions; menstruation regular; constant profuse mucous leucorrhoea; dull pain in pelvis and over sacrum; pelvic pain and pressure aggravated by walking; vagina large and everted; perineum one-half inch long; uterus movable, axis normal, two and three-fourths inches long, prolapsed to first degree; cervix lacerated upon right side to vaginal junction, lips much swollen, widely everted, and in state of granular erosion, bleeding when touched; no pelvic peritonitis or cellulitis; heart weak and irritable, soft failed, hypertrophied mitral; is anæmic; since birth of last child has constantly suffered, and been unable to do her homework without great fatigue. Has worn a pessary

for the prolapse without relief. Preparatory treatment for five weeks; cervix still large with everted lips. Unwilling to wait for further medical preparatory treatment. Trachelorrhaphy upon right side, three sutures (no anæsthetic used on account of condition of heart); sutures removed upon sixth day; slight union at angle of laceration, considerable erosion and crukes remain. Considered the operation a failure, and resumed preparatory treatment for one month. Inserted one suture through the lips deeply and twisted it loosely, leaving it in place three weeks, to partially overcome the erosion. Trachelorrhaphy upon right side, four sutures (no anæsthetic); removed upon the ninth day; laceration healed, but union is too superficial to be satisfactory. A poor result, although not a failure; much improvement, which can be confirmed by local treatment. Five weeks free from second trachelorrhaphy, during which time local treatment was carried on, perineorrhaphy was performed (no anæsthetic). Cocaine tried, but did not produce local anæsthesia; six sutures; removed upon the sixth day; union is firm and complete; cervix now smaller, with a little erosion present; general condition much improved.

CASE VIII.

C. H., aged 25; mother of one child, now eight years of age. Delivery instrumental; fetus weighed eleven pounds; menstruation scanty and regular; constant mucous leucorrhœa for six years, at times tinged with blood; dull ache in pelvis and lumbar region; perineum three and three-fourths inches long; vagina large, chronically congested; uterus movable, anteverted to second degree, and somewhat anteфлекed, two and three-fourths inches long; cervix large, lacerated on right side; lips everted, and in state of granular erosion, bleeding when touched; chronic cervical ectometritis; no pelvic cellulitis or parametritis; general condition good. She was treated off and on for four years for "bleeding of the womb," improving slightly in regard to the leucorrhœa. During the last two years she has not been treated, being quite discouraged. She still suffers from backache, leucorrhœa, at times bloody, pelvic weight, frontal headache, and "soreness in the womb" after defecation. No preparatory treatment. Trachelorrhaphy on right side, three sutures; removed on the ninth day; laceration healed completely; line of union not thick enough; no erosion or crukes.

CASE IX.—SENT BY DR. LORAIN OF BIRMINGHAM.

M. P., aged 29; mother of three children— youngest three years old; delivery normal; no abortions; menorrhagia for three years; some mucous leucorrhœa; dull backache in sacral region; perineum scooped out, appearing normal, but is really thin and weak; uterus movable, retroverted to second degree, two and three-fourths inches long; cervix

lacerated to vaginal junction upon the right; no erosion; posterior lip in state of granular erosion; no pelvic cellulitis or peritonitis; general health good. Since birth of last child has suffered from menorrhagia, backache, and leucorrhœa. Patient refused to remain six weeks for the preparatory treatment thought to be necessary in her case, and urged upon her. Trachelorrhaphy was unwillingly performed, and only upon promise that she would have it repeated if necessary. Two sutures, removed upon the eighth day; upper three-fourths of laceration united, with small opening at site of uppermost suture; small spot of granular erosion remains. Operation a failure. Patient was satisfied, and refused to have a second operation.

CASE XX.—SENT TO DR. DAY OF WASHINGTON.

L. C., aged 34; mother of three children—youngest three years old; deliveries normal; no abortions; menstruation normal; constant slight nervous leucorrhœa; "sensation of dragging" in each inguinal region near Psoas major ligament; vagina large and relaxed; perineum three-fourths inch long; uterus movable, prolapsed to first degree, retroverted to third degree, two and three-fourths inches long; bilateral laceration, quite shallow; os. ex. surrounded by a ring of granular erosion; chronic cervical endometritis, no pelvic peritonitis or cellulitis. Trachelorrhaphy not necessary, for while os. ex. is three-fourths inch wide, there is no erosion, and slight erosion; alterative treatments with care. Treated patient fourteen days, fitting a retroversion pessary, and sent her home to Sharon, to be there treated by Dr. Sears.

CASE XXI.

A. C., aged 28; mother of three children—youngest fourteen years old; deliveries normal; no abortions; menstruation scanty, irregular, and painful; considerable mucous purulent leucorrhœa for last thirteen years; constant dull pelvic pain; vagina smaller and chronically congested; perineum one inch long; uterus movable, axis normal, three inches long; cervix lacerated bilaterally to vaginal junction on each side, divided into two lips in state of areolar hyperplasia; anterior lip twice the size of posterior; considerable follicular degeneration, with inflamed cysts, feeling like shot under the mucous membrane; no pelvic cellulitis or peritonitis; suffers from nervous prostration, with attacks of hysteria and hypochondria, much worse during last year; sometimes has purine extra; spends half the day in bed; has been told that cancer would result. Preparatory treatment for one week. Trachelorrhaphy, double; first suture on right side, three on left; removed on sixth day; union firm and complete on both sides; both lacerations cured; cervix of good shape. Needs new prolonged treatment by rest, tonics, and change of climate.

CASE XXII.—SENT BY DR. SHELTON OF SHELTON.

W. L., aged 25; mother of three children—youngest three years old; deliveries normal; two abortions, second one year ago; menstruation irregular since second abortion, and with dragging pelvic pain; constant painful leucorrhœa during past year; constant pelvic pain, much increased by defecation; vagina large and ulcerated; anterior wall prolapses a little; perineum lacerated to sphincter ani; uterus movable, retroverted to second degree, with slight secondary retroflexion, prolapsed to first degree, two and five-eighths inches long; areolar hyperplasia of cervix, laceration on right side, almost to vaginal junction; slight eversion, granular erosion of posterior lip; no pelvic cellulitis or peritonitis; general health poor; is anemic; suffered from septicæmia in both abortions; last one left her much prostrated and nervous, and since then, leucorrhœa has been very troublesome. Has been carefully treated without success. Preparatory treatment for six weeks. Trachelorrhaphy right side; two sutures; perineorrhaphy at same sitting, four sutures; perineal sutures removed on tenth day; perineum completely united; cervical sutures removed on twelfth day; laceration healed well, but cervix is swollen, and there is some granular erosion remaining; trachelorrhaphy not satisfactory; would like to repeat. Continued treatment three weeks, and discharged patient much improved.

CASE XXIII.—SENT BY DR. W. C. WELCH OF ANSONIA.

L. B., aged 24; mother of one child, now one year old; delivery normal; abortion five weeks ago; menstruation regular, and normal in amount; profuse mucopurulent leucorrhœa for ten months; perineum three-fourths if an inch long; uterus movable, retroverted to second degree, two and three-quarters inches long; cervix large and congested; bilateral laceration, to vaginal junction on left side, almost to vaginal junction on right; complete eversion of lips, and granular erosion; posterior lip smaller than anterior; no pelvic cellulitis or peritonitis. General condition poor. Has suffered only from profuse leucorrhœa and the abortion, which Dr. Welch thought due to the laceration, and therefore went to operation. No preparatory treatment. Trachelorrhaphy upon right side only, four sutures. From irregularity of laceration and smaller size of posterior lip, I operated only on right side, thinking small posterior flap would not bear tension of sutures if operation was done at once upon both sides, there being complete eversion. Sutures removed on tenth day. Laceration has not united, except in a narrow band; operation is a failure; must repeat, removing more tissue from anterior lip. Treatment resorted to for two weeks. Trachelorrhaphy on both sides, three sutures on right side, four on left; tissues soft and friable; sutures removed on thirteenth day. Laceration completely

healed on right side, only half healed on left side; sought to operate again on left side. There may be mites enough to prevent eversion, but operation is a partial failure. Erosion is cured. Patient discharged.

CASE XLV.

L.M., aged 33, mother of one child, now seven years of age; delivery normal; no abortion; metrorrhagia for last two years, scanty flow, painful; constant menses-painful, leucorrhoea for two years, profuse for last six months; sharp paroxysmal pain on left side of pelvis, worse at night; vagina large, with small protuberance of anterior wall; perineum normal; uterus movable; axis and position normal, two and seven-eighths inches long; cervix lacerated on right side to vaginal junction, swollen and tender; tips everted and in state of granular erosion, bleeding when touched; chronic cervical endometritis; no pelvic cellulitis or peritonitis; suffers from palpitation of heart; general health poor; emaciated and anemic. Two years ago she strained herself in lifting a tub, causing pelvic pain and uterine hemorrhage for three weeks; has since lost strength steadily. Thinks she aborted at that time at the seventh week of pregnancy, blood flowing from the uterus on the day following the strain. Preparatory treatment for one week only. Cervix remains long in hospital. Trachelorrhaphy on right side, five sutures; intermittent attack of acute congestion of kidney, either caused or increased by the other; ten per cent. of albumen in urine. Sutures removed on fifteenth day; laceration completely healed; cervix larger than normal; os. ex. of natural size. Urine now contains five per cent. albumen; one week later, one per cent. albumen. At end of two weeks (five weeks after operation) albumen disappeared. The congestion of the kidneys was appropriately treated. Patient discharged cured.

CASE XLVI.—SENT BY DR. RALPHS OF BIRMINGHAM.

C.B., aged 36; mother of four children—youngest four years old; deliveries normal; no abortions; menstruation irregular, quantity normal; considerable menses leucorrhoea for two years; "dull, aching pain in womb and bladder"; vagina large and chronically congested; perineum one-half inch long, and quite firm; uterus movable, retroverted to second degree, held in normal position by retroversion pessary, fitted by Dr. R.; two and one-half inches long; cervix lacerated on right, nearly to vaginal junction, both lips in state of granular erosion; chronic cervical endometritis. Sent to hospital by Dr. R., with the opinion that the erosion, which he had failed to benefit much, could not be cured except by trachelorrhaphy. Thinking I might cure the erosion without operation, I treated it for five weeks, but with no better success than Dr. R. Trachelorrhaphy on right side (no anesthetic), three sutures; removed upon the eleventh day; laceration completely healed. Sutures

union primary but took eighteen days after operation; no shock. Patient discharged cured.

CASE XXVI.

L. B., aged 23; mother of one child, now three years of age; delivery normal; no abortion; menstruation irregular, with excessive flow, and tenderness; constant uterine tenderness, flaged at times with blood; vagina large and congested; old hemorrhoids; uterus movable; axis normal, three inches long; chronic cervical endometritis; slight bilateral laceration of cervix, with slight overflow and granular erosion. General condition good. During past three years has suffered from attacks of hysterical spasms, occurring at first at long intervals, but in last six months they have come on every week; an attack lasts from one to three hours, and is typical of hysteria. She has injured her nervous system by efforts to prevent conception. The laceration present is too slight to require trachelorrhaphy. The condition can be cured by treatment. Treated three weeks, with improvement. Discharged, with warning as to danger of her former practices to prevent conception. Treatment of endometritis and erosion to be continued at home.

In every case a careful examination of all the organs and functions was made, and attention to maintain the results in these condensed histories may be considered to imply a normal condition.

Of the twenty-six cases, twenty-two were treated by trachelorrhaphy, and four by medical means only, it having been decided that operation was not necessary.

I should have added two more cases, each a double laceration, recently operated on successfully, making twenty-eight; but I have failed to find their misplaced histories.

Of the twenty-two operations seventeen were successes, and five were failures. Three were double trachelorrhaphies, of which two succeeded, and one partially failed, in that only one of the two lacerations healed, and this case is counted as a failure.

Fourteen were single trachelorrhaphies, of which eleven were successes, and three failures. Five were cases of trachelorrhaphy and perineorrhaphy, performed at one sitting, of which four succeeded and one partially failed, i. e., the cervical laceration was not satisfactorily united, counted as a failure.

The causes of the five failures were: Excessive straining during defecation, one; lack of preparatory treatment, two; lack of preparatory treatment and small size of posterior cervical lip from irregularity of the tear in a double laceration, one; lack of pre-

preparatory treatment, septic condition and hyperplasia of cervix, etc. Lack of operative skill may also have had its influence.

The percentage of failures is 29.4, which is large, even in hospital practice. Dr. B. Hagley Wells* in a review of prominently selected cases, found the percentage of failures to be about eight. He writes, 're-union occurs in about eight per cent. of all operations, the percentage of failure being larger in hospital than in private practice.' It is possible in such a collection of cases that some failures were not recorded, or that some partial failures were classed as successes.

From a consideration of these twenty-six cases, the following conclusions may be drawn:

I. The cure of laceration of the cervix uteri by the use of all of the medical treatment our country is slow, somewhat dangerous, uncertain, and usually not permanent.

II. The cure by trachelorrhaphy, skillfully performed, is more rapid, safe, usually certain, and permanent. The time occupied in cure by this means may be expressed in weeks, while by the former it must be expressed in months, and sometimes in years.

III. Failure occurs in twenty-nine per cent. of hospital cases unless preparatory treatment be thoroughly carried out.

IV. Preparatory treatment of long duration is often unnecessary, but may be essential to success.

V. Stenosis of the cervical canal is not produced by this operation.

VI. The operation is almost free from the risk of cellulitis, septicæmia, or death, none of which occurred in the above series.

VII. It is possible to operate without anæsthetic when valvular disease or fatty degeneration of the heart contraindicates its use.

VIII. If trachelorrhaphy and perineorrhaphy are both necessary they may be done at one sitting.

In the discussion which followed, Dr. Ingalls of Hartford said: 'The paper of Dr. Beckwith's is a terrible one, and one in which he has brought to our notice some valuable points, and my only object in speaking upon the subject is to most thoroughly enforce all he has said. It is very true, that all the time spent upon this

of our cases of lacerated cervix, trying to cure them by local treatment, is time thrown away; and an operation is the only thing which will surely effect a cure. The operation has been severely condemned by some, but it seems to me that the condemnation has been most unjust. It has happened, as will happen to every new operation, that in its early days every lacerated cervix, no matter how slight the rent, was operated upon, and the fact that closing the rupture failed to bring about the beneficial results looked for, caused the operation to be blamed. It is necessary to bear in mind that it is not the simple existence of a laceration which calls for an operation; it is when nature, in attempting to heal the laceration, causes a plug of cicatricial tissue to be formed in the angles of the laceration which gives rise to certain reflex symptoms, that we are raised upon to operate, and by removing this plug, take away the cause of the nervous and restore the patient to health. When, then, it is determined that an operation is called for (and right here I will say that by no means do all cases demand an operation), care must be taken and proper preparatory treatment adopted to bring the parts into condition. Under no consideration should an operation be made when there is any tenderness in the broad or utero-sacral ligament, or any cellulitis. This must all be first subdued, and then the operation can be safely performed; but, as I said at first, when those cicatricial plugs are in the angles, and there is an eversion and erosion of the mucous membrane, it is time thrown away to try to heal it by treatment. An operation is the only thing that will bring a satisfactory ending to the case."

The paper was discussed further by Dr. Nelson of New London, who thought these cases were mostly all due to subinvolution of the uterus. To which Dr. Ingalls replied that he considered subinvolution the *effect*, rather than the *cause* of these symptoms. He believed that we did not see subinvolution unless in some way the integrity of the uterine tissue had been damaged in parturition.

Dr. North believed that these lacerations ought to be detected before they had existed a long time, and favored an examination before the woman was allowed to go about the house, for the purpose of deciding whether laceration exists or not.

Dr. Will discussed the subject with special reference to the nervous condition of women suffering from this accident.

Dr. Hubbard remarked that, while he had not the surgical experiences of his friend Dr. Beckwith in the treatment of lacera-

time of the cervix stenosis, he had no doubt that in cases which had reached the stage of osstenosis, the only successful treatment possible was that followed by Dr. Beckwith in the very interesting series of cases just read. He believed, however, with Dr. Nelson (?), who had just spoken, that if the state of the os were always examined at delivery, any laceration found could be in many cases so treated that it would not reach the stage of osstenosis, or give rise to the distressing nervous disabilities which follow it. The *perineal laceration* alluded to, always a barrier to the union of divided surfaces, was doubtless the result of erroneous treatment by caustics, and must, of course, be removed by surgical operation before union could take place. He regarded this operation as one of the greatest triumphs of American surgery. It was to be remembered that these cases had come under treatment from a variety of sources, whence the preventive treatment alluded to could not be had. He had met with a number of such cases of recovery (and cited one), but by recovery he did not mean, of course, a perfect union of torn surfaces, but such a degree of apposition and healing as left no painful after results. In one case of bilateral division by incision, the union was perfect—but such a case as this was outside the category of cases included in Dr. Beckwith's interesting and very instructive Essay.

In answer to an inquiry if the nervous symptoms disappeared after the operation, Dr. Beckwith replied that they were usually markedly relieved, the anaemia not always. It is difficult to follow the subsequent progress of the cases. The moral effect of the operation often deceives patients into thinking that they are better than they really are immediately after the operation.

The paper was further discussed by Dr. Douglas and others.

ESSAY.

THE DAMAGES OF PARTURITION AND THEIR REPAIR.

By Dr. P. H. ISOHALL OF HARTFORD.

There has been of late a tendency in the profession to talk against the legitimate practice of specialties, and the cry has been advanced with the theory that every specialist laid at the feet of his particular branch the cause of all ill and troubles, or the same time neglecting to pay the proper regard to the treatment of the general symptoms complained of. This, I think, is a grave error, and does a great injustice to a class of men who have spent much time and labor in advancing the science of medicine, and in pointing out the fact that there exist many troubles of a truly local character, dependent entirely upon a local lesion, from which may spring a train of symptoms many of which apparently are of a general nature, and which, in many cases, receive general treatment without their true cause ever being ascertained. We admit the fact that general symptoms and a patient's general condition are never to be lost sight of in the treatment of any disease, and a specialist who so far forgets the true principles of scientific medicine as to let the local condition absorb his entire attention, to the neglect of the general condition, is better out of specialties than in it. Specialists, however, are, fortunately, rarely of this class, and in their ranks are to be found men who have done as much if not more, to promote the true science of medicine than any general practitioners.

In the ranks of specialists we must justly claim that the gynecologists are entitled to a large share of praise, for, in the past twenty-five years, see what progress has been made in the treatment of diseases of women, and see how many cases which, in the last generation, were quietly left alone, all kinds of the causes and treatment being unknown, and which now are properly diagnosed and treated.

J. Marion Sims' name is one which every practitioner in

Another might be proud to advise: for to him belongs the glory of revising and putting on a practical basis operations and practical forms of treatment for many cases, in the treatment of which, the general practitioner felt his hands tied.

In the treatment of injuries resulting from parturition a most wonderful degree of progress has been made, and I must claim for the specialist in this branch of medicine that he has been the means of restoring to health many a woman, who by a severe labor had brought upon herself a life full of suffering and pain; and if the operation, by which this means is accomplished, is so simple of performance that the average practitioner is capable of undertaking it, so much the more should he be praised for devising and teaching that the means of relief were to be found always at hand.

But let us consider some of the injuries of parturition, their causes and effect, and the means at hand for their relief. The most frequent accident to the parturient woman, is probably laceration of the cervix uteri. It may be laid down as a fact, that no woman bears a child without distorting the integrity of the cervix in some extent, but my idea in considering this lesion is to take those cases only where the lesion is of a sufficient degree to entitle us to look at it pathologically. There is more misunderstanding about this condition in the profession at large than about any other condition which we are called upon to treat, and for a long while the operation for its relief was condemned on the one side, and again, every laceration, no matter how slight, was operated upon. The proper middle ground we will try and bring out as we proceed.

To Thomas Addison Knapp are we indebted for bringing this lesion to the notice of the profession. Early in 1842, his attention was first attracted to it, and after watching the cases, he first wrote a paper on the subject in 1869. About twelve years ago the profession began to pay it some attention, since which time it has been received with great favor both at home and abroad, and many symptoms, the cause of which had before remained in obscurity, have been traced to this lesion, and relief has been given to the patient by performing the operation at a suitable period.

What now are the causes of lacerated cervix? and what follows when this condition obtains? Probably the most frequent cause is protracted labor. In cases where the pains are strong, and the tissues of a firm and unyielding character, labor often takes place

quickly, and before the cervix has had time to dilate: the head forced through the partially dilated cervix causes rupture to take place. The same may occur when there is a rigid os, and the power of the abdominal muscles forces the child down against an unyielding os which refuses to dilate, and tears in order to admit the passage of the head. The influence of instrumental deliveries upon laceration of the cervix has by some been denied, but I think it is a fact that the high forceps operation has caused a good many cases; for, had the proper amount of dilatation taken place, of course the forceps would not have been necessary, and the very fact of their use goes to prove that nature had not sufficiently dilated the cervix, and the head was pulled through an opening the diameter of which was less than the diameter of the head, hence something must yield, and that something was cervical tissue. Abortion is a strong factor in the production of a lacerated cervix. The same elements are at work as in cases of firm and rigid os, for in abortion, and especially criminal abortion, the uterus is called upon to send forth its contents without any preparatory dilatation.

The frequency of this condition of the cervix is something startling. Emmet gives us a table in which five hundred patients are taken consecutively from his case book, and in these five hundred women, thirty-two and eight-tenths per cent., or nearly one-third, were found to be suffering from a laceration of the cervix.

One of the most frequent questions asked by patients when informed that they are suffering from a lacerated cervix is this: "Was my medical attendant, at the time of labor, at fault for the laceration?" Generally not, for in many cases it is the fault is the natural proportion of dilatation to the power of the pain, although sometimes a too hasty application of the forceps may be held responsible.

Now it is for us to consider what is the effect of a lacerated cervix upon the patient. There is no doubt but that there may be a slight solution of continuity in every case delivered, and these slight lacerations may be left alone, and no results of an evil nature obtain; but it is not of such cases that I desire to speak; it is those cases where there are symptoms resulting and actually dependent upon the tear. In the first place nearly always there follows sub-involution. The uterus measures from three and one-half to four and one-half inches; the tissues are spongy, or else hardened, the

endometrium highly congested, bleeding easily upon the passage of even the small uterine probe, a constant discharge of leucorrhœal matter, causing great weakness, and frequently giving rise to excoriation of the labæ and adjacent tissues, the uterus being too heavy for the ligaments to sustain, topples over in one direction or the other, giving us a retro, ante or lateral version or flexion, retroversion being the most common form of displacement. The patient complains of leucorrhœa, pain in the back, pain in the sides, a great deal of bearing down and dragging pain, which very soon begins to have its effect upon her nervous system, and reflex symptoms begin to show themselves.

The patient suffers from headache, generally referring the headache to the back of the head; sometimes the eyes are affected and the oculist is consulted, who, failing to discover any ophthalmic trouble, calls the gynecologist to his aid to discover the uterine lesion as the seat of the trouble. The stomach is also generally affected, and it is remarkable what an amount of sympathy exists between the stomach and the uterus. The bowels are constipated, and walking, as well as standing, becomes a burden, and at the same time various vaginal difficulties begin to manifest themselves.

Sterility is very apt to follow a lacerated cervix; the conditions previously described obtaining, of course the uterus is in no condition to allow the ovum to become nourished, and impregnation rarely takes place. About seventy-two per cent. of all women who have suffered from this lesion remain sterile, and many more, if they become pregnant, laborially abort. The menstrual function becomes disordered, as a rule becoming more profuse, often alarmingly so; sometimes owing to the constant state of engorgement, and again owing to structural changes in the tissues of the organ itself. These changes are most important in nature. We get granular and cystic degeneration of the cervix, and the endometrium often takes on a fungous degeneration, which of itself has no true cell structure, causing a constant dribbling of blood, and frequently a flow sufficiently profuse to be called a hemorrhage; and some writers argue that all our cases of epithelioma of the cervix come from a lacerated cervix.

Kennec says: "I will place on record the statement to the effect that I have never known a woman to have any form of epithelial cancer of the uterus unless she had at some time been impregnated. Moreover, I believe that nearly all, if not all, cases of epithelioma

or cauliflower growth have their exciting cause or origin in a laceration of the cervix.

In making the physical examination of these cases, at first one will be struck by the intense redness of the os, its apparently red and inflamed appearance, covered with a copious purulent discharge. The case is often put down for "abortion," and leucæa and astringents are applied. After a long stage of treatment the case is given up in despair, generally because the patient has become worn out of continued treatment, and refuses to be kept in bed longer; but if the case be looked at in its true light it will be found that the cervix has been split, the torn lips have closed, and have become involved from exposure to the vagina; there has been, as a result of the tear, an attack of cellulitis, which has left the circulation of the parts obstructed, the uterus is firm and immovable, the os bleeds easily, the mucous follicles are swollen, and many of them are breaking down in cystic degeneration, and the uterus is in a state of subinvolution.

We are now to adopt the proper form of treatment for these cases of lacerated cervix, and naturally the proper thing to do is to repair the rent and restore the natural condition of the uterus as far as possible. But nearly every case will require some preparatory treatment, and steps must first be taken to relieve the condition of cellulitis, which will be found to exist in nearly all the cases. This must be accomplished by using the hot vaginal douche (110°-120° F.) for a period of at least twenty minutes every day, so as to relieve the congestion of the parts. A word here in regard to the hot vaginal douche will not be amiss. Every practitioner has seen cases where the vaginal douche has been ordered, fail to respond to its use, and in many instances the benefits claimed for it have been derived. Much of this failure will be found due to the manner in which the patients have taken the douche. When a patient is ordered to take the vaginal douche the clinician should unless special directions be given her about the proper way to take it, she will use the douche in the sitting posture, and very little good will result from it thus used, for when a patient is in this position the contents of the abdominal cavity are all crowded down upon the uterus and the hot water does not have free access to the congested parts. The douche should always be given with the patient lying on the back, so as to avoid any constricting bands around, thus giving the water free access to the parts. This can

only be satisfactorily accomplished by having a nurse give the douches with the Davalson syringe, or else by the use of the fountain syringe.

Should there be well marked thickening in the cellular tissue around the ovaries, a blister over the ovarian region should always be used. For the old inflammatory deposit, or cellulitis, as many writers term the condition, the vaginal roof under both broad ligaments, should be painted twice a week with Churchill's Tincture of Iodine, and it is a great aid to place under the uterus pads of cotton, saturated with glycerine, to give the uterus a cushion on which it may rest and to take the weight off the ligaments, as well as the good effect of the glycerine on the tissues. When any cellulitis exists I think a pessary should not be used. Much of the harm which the opponents of the pessary claim is caused by these instruments can be traced to their injudicious use when some inflammatory condition exists in the peri-uterine cellular tissue. In the case where cystic degeneration has already begun, and the parts are engorged, and bleed upon the slightest irritation, it often hastens cases toward operation by deplete these cysts and by scarify the engorged cervix, then after it has bled freely for a brief time, an application of Monod's solution, or even of glycono-tannin, will tend to reduce the hyperplastic condition of the parts and help get them in shape for operation.

When this treatment has been persisted in for a period of time varying with the nature and demands of each individual case, and all the tenderness and inflammation have disappeared, so that upon examination the tissues are found to have lost all their indurated feeling, and the organ itself has become quite easily movable, then we may consider it safe to operate; but to operate before these inflammatory conditions have been gotten thoroughly under control is poor surgery. For under such circumstances the operation is liable to fail and, more important still, there is a probability of starting up a fresh attack of local peritonitis or cellulitis, which may become general and cost the patient her life.

There are various forms of laceration, and of course the operation must be varied to meet the demands of each case; but having properly diagnosed the case, and being sure that the patient is ready for an operation, she should be placed in Sims' position, and with the Sims's speculum the perineum is drawn back and the parts exposed to view. The tissues must now be divided, so as

to give us healthy flaps to bring into apposition. When nature has attempted to heal the tear, there will be found in the angle of the laceration dense plugs of cicatricial tissue, which it is absolutely essential to remove, for they as far interfere with the circulation in the parts as to deprive the tissues of vitality, and the operation is liable to go for naught. But taking care to remove all this hard, dense tissue, and carefully denuding the surfaces, remembering not to denude the walls of the canal, if the operation be for a bilateral laceration, the flaps are to be brought together with wire sutures, which remain ten days, the patient being kept in bed for a week after their removal. During all this time carbolic vaginal douches should be used twice daily. The bowels may be opened on the third day, and the patient's diet can then be made quite liberal. If care be taken, and these details be properly carried out, union will be obtained in nearly all the cases. As was mentioned in the early part of the paper, the patient's general condition must not be lost sight of, and during the preparatory treatment her general health should be kept up in as good a condition as possible, by the use of tonics and good feeding. When failure does take place, it will generally have for its cause some low condition of the general health, or some failure in selecting the proper time or carrying out of details of the operation.

The good results to be obtained by the performance of this operation are unquestionable. The size of the uterus is reduced, the extra weight is taken off the ligaments, the organ stays in its true position, the leucorrhœa is generally absolutely cured, and the woman's burdens are relieved.

I do not think the liabilities of a succeeding rupture are increased at all by the operation, and, in fact, I know of many cases in which, by the operation, sterility has been removed, and a successful issue passed through without the occurrence of any laceration.

Passing to the next form of damage caused by parturition, back us to take up the subject of laceration of the perineum. This lesion often occurs in conjunction with laceration of the cervix, and frequently by itself. Many of the authors upon gynecology, are in the habit of classifying laceration of the perineum under three heads. First. A laceration, slight in extent, running through the hymenialle and a few lines down the perineal body. Second. A laceration extending to the sphincter ani. Third. A

laceration extending through the sphincter ani, and involving some of the recto-vaginal septum.

A very large proportion of all women delivered suffer a slight laceration of the perineum, and probably no woman bears a child without being lacerated through the fourchette. These cases, however, rarely call for interferences, and, as in the preceding class, we shall not take them into consideration, but will take those cases where the laceration extends down to or near the sphincter, as well as those where the tear is through that muscle. This lesion does not occur as frequently as does laceration of the cervix, and, fortunately, we are seeing less of it now-a-days, when nearly all the practitioners are beginning to do the immediate operation for its closure, and fewer cases come to us for treatment. The causes of lacerated perineums are nearly the same as those which have been enumerated for lacerated cervix, the most pronounced being a lack of dilatation in proportion to the power of the expulsive pains. The results to the woman are, however, fully as bad, and in many cases have far more serious results. There existed for many years an idea that the perineum formed a support or a floor upon which the pelvic organs rested, and that its loss took away this support, causing prolapsus, retroversion, rectocele, cystocele, and kindred ills. I think this idea has suffered quite a modification lately, for while there may or may not be a type perineal body, still there is a formation of tissue in the perineal region, which serves to keep the anterior wall of the rectum and the posterior wall of the bladder in their true positions, but it hardly serves directly to hold up the uterus, whose weight I think comes upon the sacro-sacral and broad ligaments. However, if this body or structure be torn through, a train of symptoms are started which bring upon the patient a deal of suffering, and which nothing but surgery will relieve. The first condition which we generally find, is a bulging forward of the anterior wall of the rectum, which gradually begins to descend, when a well-marked rectocele presents itself. This pulling down on the posterior vaginal wall drags the uterus over backwards, and a displacement of that organ occurs. We now have our patient complaining of backache, bearing-down pain, dragging, constipated bowels, weakness, inability to walk or stand, headache, indigestion, dysmenorrhœa, and general nervous symptoms. The same symptoms are to be seen when a cystocele is the origin of the trouble; the posterior wall of the bladder may

come down, instead of the anterior rectal wall, and pull the uterus down with it. We will get in this case a profound uterus, and sometimes one in a state of complete proclivitas. When the laceration is through the sphincter ani, the loss of control by the patient over all fecal matters and gases, renders her life one of misery and suffering.

It is useless to attempt anything but the radical operation for this last-named unfortunate class of cases, and it does but little good to do anything but operate in those cases where there is any change in position of the rectal and vesical walls. I have not seen good results, and only partial relief is ever obtained by the use of pessaries, and it has always seemed to me, that the time need in fitting them and trying to get some good out of them, was time thrown away.

The treatment for laceration of the perineum, then, brings itself down to one thing, an operation. Here is an opportunity for insisting on an immediate operation for closing a lacerated perineum, and I am fully convinced that this is the only proper course to pursue. I know that a prominent professor of obstetrics in our largest American medical college advises the opposite ground, and says, "Wait and see if nature will not kindly step in and close the wound without the use of sutures;" but he stands nearly alone in this view, and I am sure that nearly all are agreed that the time to operate is the time of the occurrence of the laceration, for if we wait and see if nature is going to close the wound, the golden opportunity of having fresh surfaces to bring into apposition is lost.

This view, I feel, is one which every one of us is bound to adopt, if we wish to consider what is best for our patients, and for two reasons: 1st. The dangers which are always present from an open wound in the perineal state. 2d. The evil consequences likely to follow if the perineal structure be destroyed. To consider the first reason: Suppose we have a perineum lacerated down to the sphincter, what condition obtains? We have an open wound exposing a raw surface which is richly endowed with blood and lymph vessels all ready for absorption. Over this surface must run for a time (about two weeks) the lochial discharge. Would it be considered good surgery to leave an open wound with a mucopurulent discharge made up of masses of broken-down and decaying tissue, disorganized blood and pus? Yet this

is just what happens when a lacerated perineum is left to nature, and many cases of so-called, but falsely-named puerperal fever, which is in reality puerperal septicæmia, are due to this fact alone. Again, what right have we to let a patient run the risk of displacement, cystocele, rectocele, prolapse, and the kindred sequelæ of loss of support, when an operation can be performed, with but little trouble to the patient or her attendant, which will be a cure and prevent all these results? Every patient, then, should be examined after the third stage of labor is completed, and if any laceration has occurred, sutures of silk or cat-gut should be put in at once. In the majority of cases no anæsthetic will be needed, the continued pressure of the head on the parts will have been sufficient to have produced enough local anæsthesia so that the placing of the stitches will cause but little, if any, pain. In placing them, care must be taken to carefully pass the stitch completely under the laceration, and perfect apposition obtained so that the wound can receive none of the foetal discharge. The silk can be left in place ten days, and if the gut be used there will be no need of its removal, as absorption will take place.

In cases where the immediate operation is not performed, it is important to decide at what time, after labor, it is best to operate. I think it is generally agreed that, unless the operation is performed immediately, it should not be undertaken until all the results of the parturient state have passed away. Not earlier than the third month will we find our patient in the best condition for the operation. Then the bowels must be thoroughly emptied, and the parts carefully denuded, the object being to restore not only the skin, but the muscle, making the triangular body which is between the vagina and rectum. A skin perineum is utterly useless, and unless the body is restored the operation is of no avail. This object must be borne in mind when the denudation of the tissues is made, then silver wire sutures are passed, care of course being taken to pass each stitch completely in the septum between the denuded surface and the rectum, the parts brought into perfect apposition, the sutures twisted and cut off. The patient must be kept in bed for two weeks with the knees tied together. The urine will have to be drawn, for it must not be allowed to flow over the edges of the wound. The bowels can be moved on the third day and kept open afterwards. At the end of the first week the

stitches can be removed and, if the patient's general condition has been good and the operation properly performed, union will take place.

When the laceration is through the sphincter and, an immediate operation is not universally successful, in fact failure often occurs, but, nevertheless, I think it should always be attempted, even if only partial union be secured. In performing this operation, whether at the time of labor or as a secondary operation, the dissection will be about the same, but the difficulty which will present itself will be in bringing into apposition and holding firmly in place the divided ends of the sphincter. The sutures first put in must be so placed that, when they are drawn up, their force will be exerted in the same circular direction as run the fibres of the muscle, the sutures above being placed as in an ordinary perineorrhaphy. This operation is one of the most difficult in surgical gynaecology, and failures are more frequent. Still, it should always be persisted in, for no more troublesome condition can be imagined than the loss of control over the rectum, where the power of the sphincter has been lost.

I have so far taken up two of the most common of the damages of parturition, and as I have used up so much time in their consideration, I deem it best to defer the consideration of other damages till another time. Vesico-Vaginal and Recto-Vaginal Fistule are too important to be crowded in here, and demand a paper for their especial consideration.

ESSAY.

THE MICROSCOPE IN ITS RELATION TO DISEASE.

By DR. J. W. WRIGHT OF BALTIMORE.

On the 10th of April, 1842, Dr. Robert Koch of Berlin, announced to the world the discovery of a bacterium, which seemed to be constant in tubercular tissue, and which he believed was the cause of the tubercle. He further proved that he was able to propagate this parasite in gelatine, and then, by inoculating animals, produce all the symptoms of tuberculosis.

This was not, by any means, the first time the presence of living organisms had been suspected, searched for, and announced as found in tubercular material, but it was the first time they were made demonstrable, described fully, and a method for finding them revealed; the first time this was done by a man of science, who was aware of the full meaning of his words, who was willing to risk his reputation on them, and felt able to prove their truth.

This discovery marks two eras in the history of medicine: first and most important, a vital change of our views on the etiology of tuberculosis, and, if of tuberculosis, perhaps many other diseases which, like it, may be held to have its origin in disease germs; and second, a new departure in microscopical work, namely, — a method of differentiating objects, not by increasing the power of the objectives, but by staining the objects. The instruments used were powerful enough previously, but the homogeneity of the bacteria to the substances surrounding them made it impossible to distinguish them until they were both separated from those surroundings, by culture in other materials, and stained by a peculiar process.

It seems strange that this announcement of the tubercle bacillus should have excited so little attention in this country. The medi-

cal profession seemed to regard it as one of those startling statements of an enthusiast which would be soon confuted.

Another reason might lie in the fact that American physicians were not sufficiently acquainted with the progress of microscopical research, and were not prepared to accept or reject any statement.

It is the truth that, for minute, painstaking investigations, the Germans are far ahead of any other nationality, and Koch stands preeminently at the head of German investigators. It is time now to awake to the fact that we are far behind the age in our histological work, and strive to catch up. We have been inclined to look with some compassion on our slow going neighbors, and it is rather mortifying to acknowledge their superiority now. More than a year had passed since Koch had proclaimed the tubercle bacilli as the cause of consumption before any one on this side of the water ventured to express an opinion. In the *Medical Record* of April 14, 1883, V. Mitchell Prudden of New York says: "A careful and impartial study of Dr. Koch's papers on the bacillus tuberculosis, and the more or less valuable communications which have followed in great numbers, would seem to lead to the conclusion that an important discovery had been made, although how important and exactly in what direction its value lies it is yet too early to say."

Two months later, in the same journal, he again says: "Although more than a year has passed since the announcement by Dr. Koch of his hypothesis of the bacterial origin of tuberculosis, and the long and logical series of experiments on which it is based, it is still, in the main, in nearly the same condition as that in which he made it known. . . . The more extended researches of the past year have shown that the examination of the sputum is of much more practical importance than the original announcements gave reason to expect; that the technique of sputum examinations for the bacillus tuberculosis must become a part of the professional furnishing of every expert diagnostician. . . . The simple examination of tubercular lesions and various excreta are leading to fairly definite conclusions in some of the accessory fields. It is already practically established that, in the larger proportion, if not in all cases, of phthisis in which there is evidence of the breaking down of tuberculous tissue, and in many cases in which the physical signs are negative, the tubercle bacilli may be found, if sufficient care and skill be exercised, and that they do not occur in

not tuberculous system. . . . While in presence of much practical importance, rapidly accumulating data lead to the belief that increased definiteness in the estimate of the value of such examinations may be confidently expected."

These views are not those of a man who jumps hastily to a conclusion without sufficient evidence. They are the opinions of one who weighs carefully the evidence collected, and speaks positively only when positive of being right.

Two more years pass along, during which Dr. Prudden has made the journey to Koch's laboratory, and studied his methods. His beliefs have now become convictions, and he speaks no more doubtfully, but positively. Today he teaches to the students of the College of Physicians and Surgeons that the tubercle bacilli are the cause of consumption, that the anthrax bacilli are the cause of malignant pustule, that the cause of glanders is a germ, and that cholera may be produced by a *vibrio* bacillus going down the throat. In his report to the Connecticut State Board of Health for 1885, he says: "While it has been definitely proved that certain diseases in man—consumption, malignant pustule, erysipelas, Asiatic cholera, glanders, and certain forms of blood poisoning—are due to bacteria, and bacteria alone, there are several other diseases about which proof is not so conclusive, as typhoid fever, pneumonia, diphtheria, etc."

These articles, above mentioned, by Dr. Prudden, the report of Dr. Choyne to the Association for the Advancement of Medicine, on the "Relation of Micro-Organisms to Tuberculosis," published in the *Practitioner* for April, 1883, eight lectures, mainly historical, by Dr. Grassle of Chicago, and one by Dr. Beilfield of Chicago, a few scattered editorials and some stray papers from persons who rush into print without any cause, comprise the bulk of the American literature on bacteria. However, since Koch's later discovery of the cholera bacillus, while at the head of the Cholera Commission which was sent to India in 1882 by the German government, and the further proof of its genuineness on the breaking-out of the cholera in Italy and France in 1884, more intense interest is being shown, and it is probable that intense and earnest work is being accomplished, which will be developed later. While the incentive to labor of a pioneer is lost to us, much in the way of development and corroboration remains. We should not hesitate at least to reap the fruits of another's labor, and keep pace with

the strides now being made in bacteriology in Germany, France, and Italy.

In the former country, especially, an impetus has been given to microscopical research by the discoveries of Koch, and to be realized here. Apparently, every one at all familiar with the microscope has become affected with a desire to immortalize himself by the discovery of a new bacterium. It has been discovered by these aspirants for fame that micro-organisms are the cause of abscesses, furuncle, osteo-mycelitis, pyæmia, traumatic fever, erysipelas, gangrene, phlegmon, malignant œdema, charbon, tuberculosis, glanders, typhoid fever, relapsing fever, small-pox, cow-pox, sheep-pox, measles, diphtheria, leprosy, syphilis, milk fever, gonorrhea, trachoma, crupous pneumonia, endocarditis, sympathetic ophthalmia, whooping cough, rhinocerosus, pterygium, rhino poisoning, and other diseases. Added to these, it now seems as if our most common and constant enemy, malaria which has been the special topic for report by your Committee on Matters of Professional Interest, has at last been traced to its source, and found to be a germ whose home is the red blood corpuscle. Dr. George M. Sternberg of New York, who has spent some time in Rome studying this "malarial germ of Laveran," with the assistance of Drs. Marchiafava and Celli, at the San Spirito Hospital, has found it in New Jersey soil.

The *Médecin Gazette* of Paris humbly describes a new disease, prevalent among medical men who are eager for fame, which it describes and names *microbæmia*.

While it cannot be denied that many of Koch's critics oppose him through motives of jealousy, or because they do not understand the proper scope of his hypotheses, and do not take the pains to deduce logical reasons therefrom, it is also true that many differ from him honestly. Klem and Gibbs, in India, making the same investigation into the causes of cholera, do not find the comma bacillus constantly present, and do not believe it to be the cause of the disease. Finkler and Pribr in Italy have a bacillus of their own finding, which they claim as the cause of cholera. Pettenkofer fails to be convinced at the second conference on cholera, held at Berlin in May, 1885, after a full explanation by Koch. On the other hand, Ferran of Spain claims to have followed the bacillus through its various morphological changes, and

claims to have found by attention of the virus a method of preventing cholera by inoculation.

While it is true that there is much opposition, and what, perhaps, is worse, extravagant speculation, it is also true that the majority of careful students of science are arrayed on his side. The rapidly accumulating data and the carefully conducted experiments in cultivation are heaping up the facts in an overwhelming mass. Although no practical results have yet been deduced from these German theories, it is something to have found *sur les lieux* the germs of disease. Although the English are doggedly refusing to be convinced, Lister is, unconsciously perhaps, contributing to our belief in the germ theories of disease, by teaching that there is an infangible something, which can be prevented from entering the system through surgical wounds, producing septicæmia, gangrene, etc. Pasteur is so cultivating and managing an unseen infangible something that he prevents the development of hydrophobia in men and dogs. Koch discovers and actually sees and handles something which produces disease and kills in both man and animals.

Is not this the realization of a something we have felt — the demonstration of a theory — the fruition of a hope?

That people will still suffer and die from consumption, that the pestilence will ravage the lands, detracts nothing from the value of the discovery. It is no small thing to have discovered our enemies, although we have not found their vital points. It is something to see a light, faint though it be, in the darkness about us.

To-day we are approaching the summit of the mountains on whose higher side lies all the brightness. The shadow has been gradually lessening since we left behind us, many, many years ago, the superstitions and scepticisms of many generations ago. It has been the reproach of nations that it was never an exact science, but a collection of precedents, a delusion from past experiences. Let us hope that soon we shall be able to see our foes by the aid of the microscope, and perhaps be able to vanquish them.

Let us here quote from an article by Dr. Keeney, in the *Medical Record* of May 17, 1884: — In these diseases — malignant pustule, relapsing fever, and tuberculosis — bacteria, as a cause, have stood the crucial test. So far we have scarcely crossed the threshold of the mysterious temple of diseases in our search after facts of etiology. It were too much to suppose that, even in our time, we

will reach as far as the interior. From what has already been accomplished we can, with some certainty, foretell what the end will be—a translation of the present system of medicine to a sphere of almost another order. There are many ultra-conservatives, however, who will treat this assertion with incredulity, and perhaps even ridicule. To them the revival of the germ theory means nothing but a repetition of history, having its rise and fall as other historical events have had. It must not be forgotten, however, that the theories of the past had their origin in speculation; now they are being tested by the methods of exact science, and we have the satisfaction of at least knowing that hereafter the question will become settled forever. The theory must stand or fall by the purest scientific methods."

In California, James Lick left \$700,000 for the building of an observatory. Men applaud the deed, and call it a gift to science, as indeed it is. \$700,000 for the purpose of revealing to us more fully and clearly the wonders of the heavenly bodies, but not one cent for the purpose of revealing to us just as many wonders in the world about us—things which affect our life and well-being, the fuller knowledge of which might assist to save from sickness and death multitudes of our fellow-men!

The work which the microscope has accomplished, and is to-day accomplishing, in perfecting our knowledge of the human body in its natural and diseased condition, cannot be over estimated.

Histology should be taught in our medical colleges as a necessary qualification for graduation. The microscope should be as necessary in the armamentarium of the physician as his stethoscope. We need it in the examination of the urine for the determination of diseased kidneys, in examining the blood for leucemia and malarial germs, in determining the nature of the mother's milk, and in the suspicious cough of an incipient tuberculosis. We should use it as we use our spectacles to see more distinctly the familiar lines of the daily paper.

Perhaps it may interest you to know that, at the present time more attention than ever before is bestowed upon microscopical work in the medical colleges, and students are urged to obtain a practical knowledge of histology before venturing upon the practice of medicine. In the College of Physicians and Surgeons, during the past year, several old men who had been practicing medicine for years, and who were anxious to keep abreast of the times,

have been familiarizing themselves with the microscope in its relation to disease. There is no doubt that physicians everywhere are becoming awake to its importance. Do not say to yourselves it is too late.

"Ah, nothing is too late
Till the tired heart shall cease to palpitate,
Cato learned Greek at eighty; Sappho
Wrote his great *Odyssey*, and Seneca
Bate off the points of verse from his compeers,
When each had numbered more than fourscore years;
And Theophrastus, at fourscore and ten,
Had but begun his '*Characters of Men*';
Chaucer, at Woodstock with the nightingale,
At sixty wrote the '*Canterbury Tales*';
Guthrie at Weimar, toiling to the last,
Completed '*Faust*' when eighty years were past;
What then? Shall we sit idly down, and say,
The night has come; it is no longer day?
The night hath not yet come; we are not quite
Cut off from labor by the falling light.
Something remains for us to do and dare;
Even the oldest tree some fruit may bear."

—*Longfellow*.

ESSAY.

O TEMPORA! O MORES!

By JOHN G. STANFORD, M.D. NEW LONDON.

MR. PRESIDENT AND GENTLEMEN:

Some centuries ago a gentleman of the upper class in Rome, famed for his charming and persuasive eloquence, as well as for his power of scathing invective and verbal excommunication, rose from his place in the general assembly, and with some heat of manner, undoubtedly, while pointing the finger of scorn, asked another gentleman, whose chief characteristics seem to have been unblushing effrontery and impudence, "How long he intended still to continue to abuse their patience?" The virtuous indignation, which welled up in the breast of Cicero at the sight of Cataline, and found vent in the outpouring of such scathing denunciation as would have lacerated the hide of any ordinary thielcoorn, might well find a responsive echo in the breasts of all honorable and reputable physicians of this commonwealth, when they consider the state of impudence and ignorance, which the law, or lack of law, permits to masquerade under the name of "Doctore," and allows to continue to abuse those patients, which by the laws of natural selection, ought reasonably to be ours. The laxness of the laws in reference to the practice of medicine is such, that it seems possible for anyone, however ignorant and unprincipled, to undertake medical practice with all its grave responsibilities, without the least preparation, or knowledge of its requirements: without the least security for the people, from constituted authority.

Protected to the last degree in everything else, the citizens of this State have absolute free trade in the region of medical practice. After failing in everything else, there is left to the unfortunate individual, if he chooses, absolute freedom in practicing medicine:

He is not even obliged to send his thirty dollars to some Western medical, surgical, and obstetric institute to obtain the coveted degree, but in all the impudent assurance of dangerous ignorance, he may calmly set forth on his self-imposed mission of healing the sick (at reduced rates usually); and there shall be none to molest or make him afraid, unless he be caught in the meshes of the law for malpractice, out of which, even, there is a chance of escaping scot-free. That this picture is not in the least overdrawn, each one of you can doubtless testify; for, unquestionably, as I speak, there lives in the mind of each here before me an example of just such an one as I have referred to.

Simply to state such a condition of affairs is to condemn; but, deplorable as it undoubtedly is, I see no way of bettering the situation, except by earnest and persistent endeavor on the part of those most interested, in bringing about such legislation as shall result in wise intelligent supervision and examination by legally constituted authority of those who desire to practice medicine. That the desired result is most difficult to obtain is evident enough, because of the popular apathy, I will even say hostility, in regard to it. The mutual prejudice and jealousy of the different schools of medicine is another stumbling-block in the way of concerted action, and without concerted action I fail to see any prospect of amelioration of the present state of affairs.

We may as well recognize the fact, gentlemen, that there are other schools of medicine, which have an accepted standing in the community, however much we may disagree with them in our method and principles of practice; and that any movement in the direction of preventive or regulating legislation must reckon with them, in order to a successful accomplishment of such a desirable result. The supreme question is how to bring it about. I can readily believe that the Homoeopathic and Eclectic Schools are just as eager as we, that the law shall prevent every casual *bono opore* quack from rushing into medical practice, unless he can prove his ability and fitness before some constituted authority. They certainly cannot want unlimited freedom, even though each freebooter inscribe on his "cut-throat" the word "Homoeopath," or "Eclectic" across his "Bar Sinister."

There are honest men doubtless in these schools as well as ours. We have no monopoly of the honest men, nor they of the dishonest. It is well to bear that fact in mind.

We are accustomed to speak of the medical profession as one of the very noblest that man can engage in, but no one but the physician himself or his immediate family can have any adequate idea of the mental and physical labor and fatigue he is constantly compelled to undergo in the conscientious discharge of his duties, night and day; long hard days with insufficient remuneration, and oftentimes the very element of gratitude wanting; combating ignorance, superstition, and filth, working as no other professional man in the community has to work; and obliged to come in competition with men, who are allowed to style themselves doctors of medicine, but whose ignorance of everything pertaining to its right use is simply appalling.

Of what use is it to spend money and time in acquiring proficiency in medicine if the very people for whose good and benefit is time of sickness and trouble we wish to use it, have not intelligence enough to see that in protecting us from the cheap and ignorant competition of medical swamps and free lancers, they are affording the very best protection for themselves when the need comes for scientific medical knowledge. The average man does not need to be told that it is not to his advantage to buy adulterated beer or cigar, simply because it is cheaper; but, when it comes to a matter of life and death a great many of them will employ some pretender because he has the merit of cheapness. The fault is not wholly theirs however. What knowledge can the average citizen have of the man who calls himself "doctor," until he has tried him? Even then he cannot judge absolutely, because there is so great a possibility for quackery. He has to take him upon or lose on trust, believing that the title is worthily worn. The title is or should be one of dignity and trustworthiness; but it is already tarnished by association with some of the vilest and most unscrupulous of men — men who pose mockingly as Christians, but dishonest to the last degree, in that they dare assume responsibilities, for which they are not in the slightest degree fitted by education or otherwise.

Do you recall any whom this description fits? In one fair city of this Commonwealth, a collier on his bench started out on the perilous road of the abortionist, and his fame extended far and wide (ask you) as the friend of the unfortunate, both married and single. Finally Justice got on his track; but she did not catch him. Oh, no! Too good a man. A numerously signed petition of influential citizens headed off the investigation, and proceedings

simply stopped. A *propos* of which a learned divine remarked, "we ought to have a founding hospital here with Dr. - B' as attending physician, and Kate Cobb as matron." In another city an undoctored shirtmaker, who, in his younger days, is said to have read homoeopathy nearly a *whole* year, failing in his laudable endeavours to earn a living by making that much-needed gentleman's garment, started out to practise medicine (also at reduced rates) under a homoeopathic license I am told;? he is succeeding admirably, and in one month last year returned more than half the death-certificates (eight out of fifteen) returned by all the physicians in town, good, bad, and indifferent. Under the present reading of the law anybody, physician or otherwise, may make return of cause of death. That man is a flower in good standing in the church. I could go on multiplying instances, but what is the use. You all know the condition of things in this State.

Now, what are you going to do about it? for you ought certainly to do something. Are we not disgraced as a body in that our distinctive title is assumed and worn by such as I have named? Is it not time that we brought all the influence to bear which is inherent in such a body of men as this? We are at the mercy of every travelling and stationary medical fraud who chooses to settle among us, temporarily or permanently. Witness the endeavor made in Norwich a year or more ago when it was attempted to prosecute an itinerant. He simply claimed his intention of making that city his residence and then snapped his fingers at the attempting prosecutor; since which time he has been travelling about the State at will. The law does not protect in such an instance. It affords the itinerant the very safeguard he desires. Now, is there any remedy complete or approximate for the condition of things I have pictured, which shall protect us as well as the community? Personally, I hold that the mere graduation from a medical school, however good, and the possession of a diploma should not entitle any man to practise medicine; but should simply allow him the right to have his qualifications passed upon by a State Examining Board, which alone should have the power to grant license to practise; but unless there were three State Boards, representing respectively the regular, the homoeopathic, and the eclectic schools, there would be difficulty in carrying out this plan, because of the prevalent

? Since this paper was read I have learned that the homoeopathic drug responsibility for this case.

impossibility of forming a working board, composed of representatives from the three schools combined. A completely satisfactory relief I cannot see is obtainable, but there are two things which, it seems to me, would afford some degree of mitigation of the present evils. First, I would have a law passed, requiring every person practicing (for the last five years at least) and intending to practice medicine and surgery in this State to register before some appropriate officer, such as town clerk, and also produce as a requisite to such registration a diploma of graduation from some legally authorized school of medicine; then a second law forbidding any person from certifying to cause of death except such legally registered practitioner of medicine.

If these two laws can be placed on the statute books, it would immediately cut off a multitude of ignorant and fraudulent "doctors," and prevent them from imposing themselves on a public, which, from its very nature, is not capable of judging rightly of the fitness of every one assuming the title. There is certainly nothing unreasonable in what I have suggested as desirable; nay! rather it is simply a benefit and protection for the public; and in this view it would seem that our lawmakers would so consider it were it properly brought to their notice and urged with fair and intelligent argument.

There is nothing any unbiased person could object to, and if representatives of the other schools could be brought to urge the propriety, the necessity of such legislation as I have outlined, then there would be a greater chance of legislation seeing its merits, because of the agreement of all the commonly accepted schools as to its desirability. Therefore, will you not agitate this matter in your county meetings, and so work up a movement for relief which shall be followed by its enactment?

ESSAY.

DEGENERATIVE DISEASE OF THE KIDNEYS—ITS CONNECTION WITH AND INFLUENCE UPON OTHER DISEASES.

By DR. W. S. MERRILL, WATERTOWN.

I am not about to give a description nor treatment of *uræmia*, or the class of diseases so-called. These we can all read at our leisure (if leisure we have) in the quiet of our offices, comparing author with author, and then, possibly, being very uncertain as to what course of treatment will be of any great benefit to our patient. But I would like to call your attention for a very few minutes to the connection which this disease (or these diseases) has with, and its influence upon, other diseases; for such an influence, either as cause of the disease itself or as a strong determining result in the termination of the disease, I am fully persuaded exists; and first I would cite pneumonia.

We all know that many cases of pneumonia prove fatal when the amount of lung tissue involved is far too small to produce death, and in very many of these cases—I think quite a majority of them—there is a very small quantity of urine secreted, and sometimes nearly or quite an entire suppression. In these cases coma comes on early, and is quite intense.

Sometimes the advent of the lung trouble and the suppression are coincident, and sometimes the pneumonia seems to be progressing favorably for three or four days, and we are making a favorable prognosis, when, quite suddenly, we find coma deepening, and, on inquiry, learn that no urine has been passed for several hours; and, on further examination, learn that the bladder is empty.

Possibly a few of these cases may respond to treatment, but the very large majority prove rapidly fatal.

One peculiarity I have noticed, is that sometimes when the kidneys cease to act, they may be stimulated into action for a few hours, when they cease entirely.

It is an interesting question whether the pneumonia is caused by the renal disease absolutely, or whether the renal trouble only acts as a predisposing cause, and also as a very strong weight in determining the result. I should certainly form an unfavourable prognosis in any case of pneumonia in which I was aware of organic disease of kidneys.

Speaking with a medical friend on this subject, and concerning a patient I then had on hand, he raised the query whether the albuminuria and scanty urine were not simply the effects of the congestion accompanying the pneumonia? As he was quite an expert with the microscope, I sent him a specimen of the patient's urine, and received from him the following, to wit: "I find in the urine, hyaline, granular, and fatty casts, which show that the degenerative changes in the kidneys are decidedly marked, and of considerable duration."

Such a verdict, I believe, would be rendered in a large proportion of fatal cases of pneumonia in the aged and perhaps middle life, should a full and accurate examination be made.

I do not find a great deal of authority bearing on the causative effect of Bright's disease in pneumonia.

Wilson Fox says: "Albuminuria, associated with Bright's disease, is a very common cause of pneumonia." He also says: "Albuminuria, totally slight in amount, is a more frequent complication of pneumonia than of almost any acute disease, except typhus." Also, "Its presence is indicative to a certain degree of the intensity of cases, for cases in which it occurs are generally more severe in their character, and more fatal in their issue than those in which it is not found."

Hass, in a table of complications, and their influence on the mortality of pneumonia, gives the death rate of pneumonia complicated by Bright's disease, to be fifty-six per cent.

Pleuritis, pericarditis, and peritonitis are said by Brodow, Niemeyer, and Flint to be sometimes the result of *morbus Brighti*. In my own practice I have not yet been able to verify the fact, but should think it very probable.

With chronic organic diseases of heart we often find disease of kidney. Which of these diseases is the primary, and how much influence it has in producing the other, is yet an unsettled question. Perhaps the amount of testimony is on the side of the renal being the primary disease in the majority of cases.

I confess, however, that my own experience would not confirm that opinion, but rather that the cardiac weakness is a strong predisposer or producer of renal disease.

It seems obvious that an imperfect circulation, with its accompanying defective action, must throw an increased amount of labor on to the kidneys, rendering them unable to perform the task of complete depuration, and again, in turn, throwing more work upon the lungs, which, on account of the defective circulation through their vessels, are not able to accomplish their own task, in this way still further weakening the cardiac powers; and so, revolving in a circle, each organ by its defect injuring the other.

It is a well-recognized fact that the kidneys in addition to their own legitimate labor are often obliged to perform the work of other organs, as witness the effect of cold in checking the insensible perspiration, when the kidneys take on an increased action, excreting temporarily sometimes a fourfold quantity of fluid, preventing in that way what is called a "cold," *et cetera*, an increased, and sometimes an inflammatory action of the mucous membrane of the nose and throat, or perhaps the intestines.

We may, therefore, expect that in almost any disease, whether acute or chronic, the failure of the kidneys to perform vicarious work, when called upon to do so, will often have a determining influence in the progress and ending of such disease, and therefore will much modify our prognosis.

I am aware that I have only just touched the subject—merely sketched a little of the rim—leaving the rich kernel almost untouched, but if this shall stimulate others, more able and with much larger opportunities of investigation, to delve deeper into the subject and bring out the rich ore, my work will not have been in vain, and my desires accomplished.

ESSAY,

ACUTE PNEUMONIA.

By S. D. GILBERT, M.D., NEW HAVEN.

If any apology is needed for presuming to write of a disease *concerning* which works on the theory and practice of medicine so fully treat, it is found in this fact, that pneumonia is very prevalent in our State and in New Haven County, which I represent; that it is a *trouble* greatly feared by the public at large, and one to the treatment of which a physician needs to bring all the skill and ability at his command in order that he may win the day and cure his patient. Twenty-four of the one hundred and forty-one deaths, or 17.43 per cent. of all the deaths in the town of New Haven during the month of March, 1885, were from pneumonia and congestion of the lungs, and the number of cases of the disease in which recovery ensued was very large; so that pneumonia certainly has been very prevalent in this town. There were in the State during 1884, 684 deaths from this disease, or 8.11 per cent. of the total number of deaths. 182 of these were in New Haven County, Hartford County showing the next greatest number, 149. The per cent. of deaths from pneumonia in comparison with the total mortality is exceeded only by the per cent. of deaths from consumption, 12.75 per cent. of the whole number of deaths, the total number of deaths from consumption being 1,452. The greatest per cent. of deaths from pneumonia to the total number of deaths in any county was in Litchfield County, or 8.16 per cent.

Every practitioner finds that disease in its many forms as studied by him in the text-books of the day and described by the lecturers to whom it was his privilege to listen, does not actually correspond in every particular with the disease as it presents itself to him at the bedside. It is as the result of such experience, conjoined with the knowledge obtained from instructors and books, that I wish to present the subject. I shall confine my paper to the acute form of the disease.

Acute pneumonia is an acute disease characterized by sudden onset, severe febrile symptoms, cough, expectoration, and dyspnea, by pulmonary consolidation, with a sudden abatement of all the symptoms between the fourth and tenth days.

Anatomically, it is characterized by inflammation of the lung tissue and by an accumulation of the product of inflammation in the alveoli.

Inflammation of the lungs appears to be most prevalent in those climates which are characterized by sudden and marked changes in temperature. In tropical climates it is almost unknown during the hot season, and, on the other hand, it is rare in the Arctic regions, Iceland, and similar countries where a more uniformly cold temperature is experienced through much of the year.

Pneumonia is very prevalent throughout Europe below 60° north latitude, and throughout the Middle and Southern States of our own country, as well as in the Northern States. It is more prevalent in the Southern States than elsewhere in our Republic, constituting at times almost an epidemic, and being very fatal among the negroes.

As regards age, pneumonia is most prevalent between the ages of 20 and 40, and is quite frequent in early life below ten years. Grimberg, out of 6,000 cases, found that 38 per cent. were between 20 and 40, and 11 per cent. under 14 years, and 14 per cent. from 14½ to 14 years. Grimaldi says: "Pneumonia is, therefore, a disease very frequent in infancy, less common from infancy to 20 years of age, comparatively frequent between 20 and 40, and very frequent and also very fatal after 40." Males are oftener the subjects of the disease than females, and this is due undoubtedly to the fact that men are usually more exposed to the vicissitudes of the weather than women. Among men those who labor out of doors are the most frequently attacked, for the same reason. It sometimes seems as if pneumonia were more fatal, as well as more prevalent, among strong, robust men than among those of frail constitution; but I think that often those who appear strong and robust, particularly among the laboring classes are less able to withstand the attacks of any disease than those who apparently are more frail, because the first class have used up their strength for each day's demands, and have nothing in reserve to fall back upon. This fact was well brought out in the late Civil War. The men who endured best the fatigues of the march and the many hardships with illness in

their train which fell to the lot of the soldier, were the city clerk, and others who had never done hard manual labor, while the lumpy-handed sons of toil from the farm sustained such more quickly.

The exciting cause of pneumonia is frequently exposure in severe cold weather, or a chill after getting over heated. After a decided cooling the disease frequently supervenes. All these causes more certainly operate to occasion the disease if the patient is greatly fatigued. The physician who, in winter, attends an obstetric case requiring a long and difficult instrumental delivery which brings on fatigue and exhaustion, and then, after a profuse perspiration, goes into the open air and rides home several miles in a mild temperature, is a good subject for an attack of pneumonia. One of our most able practitioners, a man in middle life, not less dead from this very chain of circumstances a few years ago. An attack of indigestion seems at times to predispose to pneumonia. A severe blow upon the chest or back has also been believed to have caused the disease, and a fractured rib wounding the lung has often been a cause though after this accident generally only one lobe is affected. Frequently, however, there is no apparent cause, and the patient wakes out of sleep with a chill, which is the herald of the disease.

The changes occurring in the lungs are indicative of three stages: First, that of engorgement, in which there is inflammatory hyperæmia and edema. The lung is dark red in color, is heavier than usual, less crepitant, and if cut exudes a red, frothy liquid.

Second, red hepatization. Here there is an exudation of liquor sanguinis and blood corpuscles. The exuded liquids coagulate within the alveoli and terminal bronchiales, the coagulum enclosing numerous white and a few red corpuscles. The lung is now much heavier than in the preceding stage, and is increased in size so as to be englobed by the ribs. The tissue is quite solid and sinks in water. The color is a reddish brown, passing into grey.

Third, grey hepatization. This stage is characterized by a continuance of the process of inflammatory cell emigration and by cell proliferation. It is marked by an increase in the grey color, caused by the processes named and the progressive changes in the lung, so that, as the disease advances, the color becomes sometimes yellowish white. It must be remembered that while one portion

of the lung is in the stage of red hepatization, another may be advanced to that of grey hepatization. Hence the mottled color.

The natural and very frequent termination of the histological process is in resolution, the lung gradually returning to its normal condition. This is affected by fatty degeneration and liquefaction of the inflammatory products which have occupied the alveoli. The softened products are removed by absorption and to a less extent by expectoration. Instead of ending in resolution, however, the disease may end in gangrene, abscess, and chronic pneumonia.

Usually the right lung is more commonly attacked, and if one is attacked usually about 75 per cent. or the lower lobe, is the portion of lung involved. The consolidation may extend upward and involve the apex. If both lungs are involved, one is usually diseased before the other. It is rare for the pneumonia process to begin in two separate portions of the same lung.

As regards the pathology, pneumonia is undoubtedly a general disease with a local manifestation in the lungs, and is not a local disease to which the pyrexia and other symptoms are sequelæ. The fever sometimes precedes the local disease. Some writers think that there is a specific germ which is present, as in other diseases, but that is not yet proven.

Symptoms: Pro-dromata and bad feelings sometimes precede the attack, as general malaise, a sense of weariness, etc.; but usually the disease breaks the patient sharply and suddenly. There is, in a great majority of cases, a sudden chill, more marked and severe than in almost any other disease, except, perhaps, fever and ague.

Usually, immediately after the chill, or within a few hours, pain is felt in the side corresponding to the lung attacked. Flint says that the pain is generally referred to a circumscribed space near the nipple of the affected side, and that this limitation of the pain is a point distinguishing pneumonia from pleurisy. In fact, pain in the side is regarded by many as pathognomonic of the disease. It is probably due to the co-existing pleurisy, which always in some degree, unless with rare exceptions, accompanies pneumonia. The pain is not always located in the side, however. I remember a patient whom I attended several years since, and who afterwards was very ill indeed, but recovered, who had no pain in his side or back. In fact, all that he complained of was because he had such

pain in the abdomen. I was thrown off the track in my diagnosis for the first twenty-four hours by this fact, and was astonished to find, the next day, that one lung was nearly solid with pneumonic condensation. Ever since then, when called to see any patient complaining of pain in the abdomen, in the absence of other abdominal symptoms, like diarrhea, etc., I examine the lungs. The pain is usually sharp and pleuritic in character, but may be a steady ache. It is the symptom which the patient usually notices most of all, and for which he seeks relief. Accompanying the pain, difficulty in breathing is experienced. The patient says that he cannot draw a long breath without cutting him like a knife, and the physician will notice an increase in the number of respirations per minute.

As the fever, which begins usually soon after the pain, rises, the rapidity of respiration increases, reaching as high as even sixty respirations per minute in extreme cases, and even seventy to one hundred in children. Cough is usually a marked symptom, short, sharp, and hacking at first, and with perhaps little expectoration for the first few hours. The patient complains of pain in the affected side when he coughs. Soon there is some expectoration, which, glairy and scanty or frothy at first, becomes tenacious and of a reddish-brown color, the so-called rusty sputa of pneumonia. The characteristic rusty appearance is sometimes not seen, however, until just before resolution commences. Sometimes the sputa are tinged with yellow or bile, and this indicates a liver complication, which is not reassuring to the physician. Then the purulent color is seen, which Flint says is due to the presence of large quantities of blood in the sputa. This color is regarded by some as due to edema of the lungs, and is commonly associated a sign of grey hepatization; but this is by no means invariable, and may be found with red hepatization. Children under six years of age seldom expectorate; but Zimmerman has found rusty color in infants' sputa after vomiting. Walshe thinks that profuse hemoptysis is commonly a sign of coexisting tuberculosis. Wilson Fox also notes the same fact. Hesse confirms this, but adds that, with heart disease, there may be much blood expectorated. As resolution progresses, the earlier expectorated products, mottled and meagre, the appearance of hemorrhagic sputa, with sometimes black pigment.

The pulse generally ranges from 90 to 120, but a pulse above

120 or 128 is a bad omen, except in children. The pulse, full and strong at first, becomes small and feeble if the attack is severe, and the pulse is frequently dysrhythmic, arrhythmic, and irregular. The smallness of the pulse is, in a great measure, due to loss of heart power, and, according to Green of London, partly due to the diminished amount of blood which is propelled from the left ventricle, owing to the overloading of the right cardiac cavity, which results from the obstructed circulation in the lungs."

The fever of pneumonia is continuous with slight morning remissions and decided evening exacerbations. One thing is very characteristic of the disease, viz.:—the sudden rise of the temperature, the thermometer frequently showing 105° in twelve to twenty-four hours after the attack. The pyrexia reaches, in a great majority of cases its highest point, however, on the second or third day. The temperature, if frequently taken, will be found to be lowest from six to nine A. M. It then rises till early in the evening, when a second slight exacerbation occurs. When the crisis is reached the temperature falls very suddenly and rapidly in many cases, reaching the normal, or below, in a few hours. In a great per cent. of cases, the crisis occurs on or about the seventh day. Sometimes the fall is more gradual and occupying twenty-four hours or more. Delirium is a not infrequent accompaniment of the disease, and in children need not be regarded as a particularly bad symptom, but in adults, unless of the mildest type, is of grave portent.

The time occupied in the progress of the disease, from invasion until resolution is fully completed, may vary much. The stage of engorgement may last only a few hours. The stage of suppuration may continue three or four days, or longer, but often not more than forty-eight hours. Resolution is very exceptionally completed in three or four days, but it may take several weeks. I should say that two weeks would be a fair average of the time of the completion of resolution. The most common termination of acute pneumonia is in complete recovery, and the improvement, as has been already stated, is usually quite abrupt by crisis. In the great majority of cases this occurs about the seventh day, as has been already stated, though it may occur a little earlier. Recovery is often then quite rapid; but in debilitated subjects and particularly in people accustomed to the too frequent use of alcoholic stimulants, it may be very slow. If death ensues, it frequently

takes place on or about the eighth day, and is in many cases due to failure of heart power. This failure of the heart is a great source of danger to all patients, but particularly in those advanced in life. Death may also be caused by apoplexy, and by prostration following the crisis. Heart failure is probably, however, the most common cause of death, and its approach is indicated by a small, intermittent, and irregular pulse, accompanied by great dyspnea and cyanosis. The latter is very marked, and one who, for the first time, sees the peculiar purplish hue of countenance of one dying from heart failure will never forget it. An excessive cold, clammy perspiration breaks out all over the body, the mind wanders, and the patient sinks into a comatose condition, to which there is only one ending. Sometimes, but rarely, the disease terminates in gangrene. When this occurs, it is usually denoted by great fetor of the breath and great prostration. Abscess results more commonly.

One of the first physical signs to be noticed in the congestive stage is a shortness of breath, and diminished breath sounds on the affected side, and dullness on percussion. As the congestive stage develops the dullness increases, and the crepitant rale is heard, but on inspiration only—the fine crackling sound which Dr. Williams compared to that produced by rubbing the hair of the hand between the fingers. This rale is not to be confounded with the sub-crepitant, which is a coarser rale, more like a rattling sound. When heard the crepitant rale is almost pathognomonic of the disease. Its production is probably due to partial adhering of the cell walls, and their separation during the inspiratory act. Such a rale is sometimes heard in hypostatic pneumonia, but a few forcible inspirations will cause its disappearance. When the lung is consolidated it is perfectly dull and flat on percussion, and the air often cannot be heard to enter the lung tissue affected. There may be horizontal breathing and pectoriloquy. Vocal fremitus is usually increased, though it may not be. The beginning of resolution is indicated by the re-appearance of crepitation, but instead of the fine crepitation, it is a coarser, rattling sound. When Fox says that when resolution is very rapid, there may be *no* sub-crepitation. Of the complications, pleurisy is one of the most common. In fact, as has been said, pleurisy to a certain extent always accompanies pneumonia. In from five to fifteen per cent., however, of the cases, pleurisy of genuine essent, and with effusion,

supervenes. When there is great effusion it constitutes pleuropneumonia, and is an element of danger to the chest. If the pleuritic effusion is on the side opposite to the one affected, the danger is much greater.

Bronchitis frequently accompanies the disease in children and the aged. Other complications are pericarditis, jaundice, and parotitis. According to Grossle, parotitis is very rare, and a very serious complication, usually ending in suppuration or gangrene. We hear frequently of a typhoid complication, but as I understand it this is merely an aggravation of the depression and prostration usually accompanying a severe type of pneumonia, in other words, the typhoid state, indicated by sallowing delirium, dry tongue, scales on the teeth, &c., &c. This form of pneumonia is usually fatal during the second week.

Of lobular and interlobular pneumonias the time allowed for this paper will not permit me to speak.

The diagnosis of acute pneumonia is usually not difficult. It cannot be arrived at, however, beyond doubt, before the existence of consolidations are complete. There are, even signs, nevertheless, which make it reasonably certain that a pneumonia is impending, even before the characteristic physical signs are discovered. The phenomena which are of the most diagnostic value at this early stage of the disease, are the pyrexia, the attending pulse respiration ratio, the pain in the side, and cough. Wilson Fox says: "The sudden and rapid rise of the bodily temperature, which usually reaches its maximum in forty-eight hours, is very characteristic; such a rapid ascent and maintenance of a high temperature being more common in pneumonia, perhaps, than in any other disease." The diagnosis of pneumonia from other diseases is rarely difficult. In placing the disease with which perhaps it is most likely to be confounded there is not at a rule such a sudden and rapid attainment of a high temperature. The pain is pleuric, too, is very characteristic, and accompanied with the febrile murmur. When effusion is established, all doubt is at an end, and if there is a large amount of liquid, there is perfect dulness on percussion, bulging of the intercostal spaces, and displacement of the lobe. Bronchopneumonia is distinguished from acute pneumonia in these points: 1st. There is very rarely any chill. 2d. The pyrexia is not so rapid in its rise, and is not subject to the diurnal

variations which characterize the fever of pneumonia, and varies in intensity with the amount of lung tissue involved. Acute capillary bronchitis is not ushered in by a sharp rise as is pneumonia, and the general febrile disturbance is less the fever not being so high. There is no dullness on percussion.

When I first began practice, I was often asked if lung fever and pneumonia were not the same thing, and I appealed to Dr. Levi Jew of this city, one of the fathers of the profession, to settle the question. He told me that he called capillary bronchitis lung fever. When the air cells of the lungs are attacked, he denominates the disease pneumonia; when the capillary tubes alone are implicated, he terms the affection lung fever. Pneumonia may be confounded with the somewhat rare form of acute phthisis, in which the whole or a large part of the lung becomes rapidly consolidated. In acute phthisis, however, the apex of the lung is first attacked, and the fever is more gradual in its rise. The course of the disease is also much more protracted.

As regards prognosis, pneumonia is more fatal in females than in males, some writers saying that the disease is nearly twice as fatal in females. It is a disease which tends to recovery in a great majority of cases, but the prognosis is influenced by many circumstances. If the patient has been in good health, robustly strong, has a constitution not impaired by any chronic ailment, such as ague, or a vice as alcoholism, the prognosis is more favorable. Healthy young children do not often die of pneumonia, neither do healthy young men of twenty or its vicinity, but after fifty, the disease is very fatal. As a general rule, it is the complications which make the disease fatal. A person with a weak heart is a bad subject for the disease. Erysipelas increases the gravity of the prognosis also any liver or kidney affection. Of individual symptoms, the pulse is the most important. A pulse which in the adult is persistently over 120 or over 140 in a child, is of grave omen. Very rapid respiration accompanying dyspnea is a bad sign, and still patients who exhibit these symptoms do recover. Marked diarrhoea, if persistent, indicates earlier weakness and danger. A high temperature of 105° is not of itself a very bad sign if not too persistent, but if associated with weak heart and great prostration, is much to be feared. Cough, dry and hoarse tongue, particularly if there is also diarrhoea, are a very grave group of symptoms.

In considering the treatment of pneumonia, it must be borne in mind that we are called to treat a general disease, and not a local affection, though at times the local trouble may make it itself so prominent as to demand particular attention. Hence, as a rule, all the depressants, resorption, tartar emetic, etc., are not indicated; and yet when there is great dyspnea with a full pulse, and the patient seems to be in danger of death from suffocation, free bleeding will often relieve the distressing symptoms. I remember a case in which a stout, vigorous man, suffering from great difficulty of respiration, in pneumonia caused by penetration of lung tissue by a fractured rib, was at once relieved by free abstraction of blood from the arm. In some cases the severe local symptoms are promptly aborted by such treatment, and the severity of the disease greatly modified. I know that at present acetate is not much used in the early stages of acute pneumonia, and yet in patients of twenty or thirty years of age, with bounding pulse and a pulse of high tension, who were previously strong and vigorous, I have found that deep doses of the chloride of acetate used, repeated hourly until the pulse is softer and the temperature is lowered, do modify the severity of the attack.

As a general rule, however, we are to remember that the object of treatment is to conduct the patient safely through the course of the disease to a favorable termination. We cannot abort the disease, but we can modify the severity of the attack, and lead the patient past all the pitfalls and mazes which lie in wait, back to health. In the rational treatment of pneumonia, we must be guided by the fact that we have certain evil forces at work which we must combat. One of the chief of these is cardiac failure. In a great majority of cases the heart is the organ to watch and defend most cautiously and not the lungs. There is danger in this direction from the outset, but particularly in those who are debilitated from any cause, whose powers of life are weakened by excess or any kind, whether alcoholic, or sexual, or by privation and want of life. It should be remembered that in the strong and robust there is a natural tendency to recovery. When called, then, to a patient whom we find ill with pneumonia, we should remember that we are first to support the powers of life and second to quiet pain and promote the elimination of the products of the disease by expectoration and the natural discharges of the body. To this end the patient should, in the first place, be put in bed in a well ventilated

warm, and I do not believe that patients often "catch cold," as the phrase is, from draughts. I would rather err on the side of giving too much air, than not enough. How often a physician is called in to find a patient ill in a close room, with all the windows closed, the air impregnated with the odor of the consumptions from the body, etc., and the patient breathing in this mixture at the rate of forty times a minute. Yet, if the physician throws a window open or the room ventilated, some good woman exclaims, "Oh, dearer, you will kill him! He will catch cold!" If any disease demands good and abundant ventilation, certainly pneumonia does. To keep up the general strength, milk, meat broths, and preparations of beef-papavoids are very essential. If the pulse is very weak and diarrhoea, alcoholic stimulants are indicated and need to be given in some cases quite freely. When the pulse is very rapid (over 120), alcoholic stimulants are needed. Milk punch is on the whole the most satisfactory form in which to give alcohol, though in some cases, where milk is not readily digested, alcohol may be given in some other way.

Ten to fifteen ounces are often very useful as a sustaining measure. For the pain in the side and cough, nothing is better as a local application than a poultice jacket, which is simply a jacket of muslin completely surrounding the chest, into which is quilted cotton batting. This should be nicely fitted and sewed or bandaged together. When so applied, the heat of the body soon makes this appliance act as a position, and gives comfort from its warmth and support to the walls of the chest. If applied quite snugly, the jacket keeps the walls of the chest quiet, throwing the burden of respiration on the diaphragm and abdominal walls and allowing the inflamed pleura to remain at rest, hence diminishing the pain. Positions of linen or wool are useless, heavy, and uncomfortable things at best, continually slipping down unless very carefully applied and bandaged in place, besides getting cold and necessitating the annoyance of the patient by frequent changes. The jacket when once applied can usually remain in use until the crisis, for, as a general thing, it is possible to ascorbate sufficiently well with the jacket on, and it is rarely necessary to remove it for physical examination, for after the pneumonia and its extent is well mapped out, I do not think much is gained by too frequent examination. It only annoys the patient. However, if necessary, the jacket can easily be removed and re-applied. If constipation exists with

heavily loaded tongue, a mild emetic or a dose of castor oil can be given, but active purgation must be avoided. Opium in some form should be given in sufficient quantity to quiet pain and cough. An expectorant, such as wine of ipecac, or an infusion of *Asclepias tuberosa* may be given, if indicated, but muric acid of ammonia in doses of five grains, combined with codonized extract of apian or pancreas, and repeated every three or four hours, is one of the most satisfactory mixtures which I have given to adults as an anodyne and stimulating expectorant. In threatening cardiac failure, the administration of alcoholic stimulants freely is the great desideratum, coupled with the exhibition of digitalis in moderate doses. If administered in too large doses, the circulation will be too much depressed, and this must be guarded against.

I do not believe in giving large doses of quinine, twenty or thirty grains, to reduce the temperature, which practice is in vogue among the profession in Germany, and to some extent in this country. Circumstances may arise where it would be justifiable, but I believe that there is great danger of heart weakness after such treatment. In fact, I say frankly that I am afraid of large doses of quinine in the treatment of pneumonia. I would prefer to give five or ten grains, and repeat in a few hours if it were absolutely necessary to reduce the temperature by quinine. But in my treatment of pneumonia I have very rarely given more than toxic doses of quinine, one or two grains, repeated at short intervals. I should prefer to have the patient sponged frequently with alcohol and water if it becomes necessary to reduce the temperature, or to have him put in a warm pack. But I do not think that such a line of treatment is often needed. If dyspnea threatens life, and the pulse is good, bleeding may be resorted to. It is sometimes very serviceable, as in the case before mentioned, where a fractured rib caused pneumonia. If delirium is quite a pronounced symptom, it may be necessary to give an opiate, though much may be done to quiet the patient by sponging with cool water or water with the chill removed. Diarrhea is usually successfully combated with chalk mixture or astringents. I am quite fond of giving a mixture of tincture *Coccol* in 3*ss* doses, combined with five or ten grains of bismuth subnitrate. Opium enemata are often quite efficient in checking the diarrhea.

Complications call for their appropriate treatment.

During convalescence the great thing is to support the patient until nature will assert control.

Patients are sometimes exceedingly prostrated, so much so, that death ensues from exhaustion. In most cases convalescence is quickly established. It is best to put the patient on a solid diet as soon as his stomach will bear it. Some tonic of iron or cod liver oil is a valuable aid in restoring nature's weakened powers.

In the treatment of pneumonia, then, we should support the powers of life, allay pain, and stop pain if possible, endeavor to prevent weakness of the heart, and, above all, we should watch the patient very closely. I believe pneumonia patients should be seen even in mild cases several times daily. We cannot be too vigilant. The patient's condition frequently changes and develops alarming symptoms in an hour's time. Therefore, it is best to make too many visits rather than too few. Constant vigilance is the price of victory.

ESSAY.

THE PREVENTION OF INSANITY.

By GEORGE ELLIOT, A.M., M.D., New Haven, Connecticut.

The study of diseases of the mind has, during the last twenty years, commanded a constantly increasing share of the attention of the medical profession. More and better facilities for instruction in this department are now offered than ever before by the various medical schools, both undergraduate and post-graduate. Numerous special societies, both national and local, have been organized with a view of promoting the study and discussion of the various subdivisions of the subject. As a result of their influence not only have many articles appeared in the journals of general medicine, but also a number of journals devoted exclusively to nervous and mental diseases have helped to disseminate the latest views of American and European specialists. And finally, within a few years, several manuals and textbooks treating the subject systematically, have been published. Dr. E. C. Spitzka, in the preface to his manual, under date of April 16, 1888, refers to the work as "the first systematic treatise on insanity published on this side of the Atlantic since the days of the immortal Rush." Dr. William A. Hammond, under date of May 1, 1883, writes: "For the last seventeen years I have been a teacher on the subject of 'Diseases of the mind and nervous system,'" and adds: "The first professorship of that branch of medical science in this country was held by me."

The symptomatology and treatment of the various forms of insanity have been so thoroughly investigated, and the conclusions reached have been rendered so accessible, that those of us who aspire to be general practitioners have no longer any excuse for continuing to neglect the subject. It is to the family physician

that insane patients are brought when they begin to "act queerly"—often before their friends suspect any serious disorder of the mind. It is of the greatest importance that the symptoms in these cases should be correctly interpreted as early as possible, for then will treatment prove most effective. Equally important is it, after the correct interpretation has been determined, to select an appropriate plan of treatment. The day when uncontrollable violence was considered the most important symptom of insanity, as well as the equally dark day when the prevention of homicide and suicide was regarded as the chief indication for treatment, and confinement in an asylum as the most available therapeutic measure, have happily passed away.

But while it is necessary for us, as practical physicians, to be familiar with the symptoms and treatment of insanity, as sanitarians we must also study its causes and prevention. Bacteriology is now the fashionable craze with sanitarians. The study of the zymotic diseases has long occupied the uppermost place in their minds. It is possible that in this direction preventive medicine will always show the best results. But sewer-gas and miasma are not the *only* causes of disease. There are other harmful agents are also deserving of careful study.

Hencefore it has been necessary to discuss the etiology of insanity from what may be called a psychological standpoint. It is the purpose of this paper to consider it from a physiological and pathological standpoint. Our knowledge of the cerebral anatomy and pathology of insanity, though still far from complete, has been greatly advanced during the last twenty years. It will be interesting, starting with our present knowledge as a basis, to consider how the well recognized causes of insanity act in disturbing the cerebral functions, and producing the lesions found in the brains of those who have died insane; and, subsequently, to attempt to point out how the injurious action of these causes may be avoided.

In the light of our present knowledge it is perhaps fair to assume that the various manifestations of cerebral disease are, as a rule, dependent upon some disturbance of the nutrition of the nervous structures of the cerebrum; and that these disturbances of nutrition may consist either of alterations of structure discernible in some cases with the unaided eye, in other cases only on careful examination with the microscope, or of changes which cannot be detected after death by any methods of examination now known. The

changes which can be determined consist, partly of alterations of the structure, course, and surrounding tissues of the vessels: partly of degenerative changes of the ganglionic nerve cells, and connecting fibres; partly of changes of the meninges or supporting connective tissue of the brain; and partly of inflammatory changes in the substances of the brain. These palpable changes of structure, as well as the changes of nutrition dependent upon impalpable changes of structure, are due in a large proportion of cases to changes in the circulation of the brain. These changes in the circulation, upon which so many forms of perverted nutrition depend, consist sometimes of an excess of blood, sometimes of a deficiency of blood, sometimes of a supply of blood of poor quality, sometimes of a supply of blood containing irritating substances, sometimes of such a disturbance of the circulation as interferes with the elimination of the waste products of cerebral activity, and sometimes of an interference with the bio-chemical changes by which the integrity of the nervous structures is restored after use.

It is obvious, therefore, that in order that there may be perfect mental health it is essential that at the very beginning there should be perfect nervous structure, that subsequently the nutritive processes should go on in a normal manner, and that no irritative processes should be established in any part of the brain or its membranes.

In contributing to congenital imperfection and inherent weakness of nervous structure the influence of heredity stands preeminent. Its importance is universally recognised. It is possible to partially obviate this influence in two ways: in the first place, as regards its effect upon offspring, by care in the selection of husbands and wives; in the second place, as regards the child born with a hereditary taint, by care in regard to education and training.

As interfering with the normal nutritive processes there may be enumerated the use of cheap, inefficient food, and excessive and depressing mental strain, including care, worry, chagrin, disappointment, and similar agencies. Every organ of the body requires rest, and, inasmuch as during every waking hour the brain is constantly active, the inference is reasonable that sleep is essential in order that the brain may obtain its needed rest. The loss of it may not be felt at once, but surely, sooner or later, he who works

his brain, without giving it a suitable amount of sleep, will suffer from cerebral derangement of some kind.

Of almost equal importance with rest is a sufficient supply of nutritious food. Protoplasmic insanity is most frequently seen in half-starved, poorly nourished women. In order to be able to perform these functions in a normal way, the nervous cells impoverished by previous activity, must be supplied with an amount of nutriment adequate to restore their integrity. Fortunately, in our country the action of this cause is not often observed, and the remedy is usually easy and quickly provided.

Of primary importance also are correct habits of thought. Persons who allow themselves to be easily irritated, cultivate a habit of irritable nervous action, and so predispose themselves to insanity. Constant consideration of one's own self, particularly of one's own misfortunes, whether actual and absolute, or only relative as compared with another's good fortune, gradually narrows the range of mental activity, so that the mind becomes incapable of bearing the somewhat unusual burdens which are likely, at any time, to be cast upon it. Limiting one's range of thought and interest acts in a similar way, and is often combined with the equally injurious habit of constant overwork and worry in business, without taking time for recuperation of the physical forces, and without permitting any mental relaxation. In order to avoid the action of these causes one must practice self-control, must cultivate breadth of interest, must keep his mind out of narrow grooves, and must take care for recreation of both body and mind. In this connection must also be mentioned the unfortunate effect upon the mind of illness. Mental occupation is as necessary to healthful mental action as rest. A similar disastrous influence is the suffering of long continued anxieties on account of disappointments and unpleasant occurrences within the range of one's personal interests. This in the experience of the writer, has been an exceedingly fruitful cause of particularly painful forms of insanity. It influences of this kind are to be avoided, one must learn to forget disappointments, to become easily contented to what has already happened, and to look at the bright side, rather than the dark one, of both present and future.

There remain for discussion those causes which produce distinct pathological lesions. Some of the causes already enumerated as

interfering with cerebral nutrition, cause also disturbances of the blood supply of the brain. Insomnia and excessive mental activity give rise to cerebral congestion; insufficient or poor quality of food, to cerebral anemia. Again, the cerebral tissue may be subjected to the action of direct irritants contained in the blood. Of these irritating substances none does more injury than alcohol. It has more influence in the production of insanity than any other cerebro-vascular agency except heredity. It is probable that alcohol and heredity together contribute more to the present prevalence of insanity than all other causes combined. Other irritant substances which occasionally find their way into the blood, and to the brain, are tobacco, ergotized rye, diseased Indian corn, chloral, morphia, the bromides, *strychnic acid* and its compounds, and belladonna.

Other irritant substances sometimes exist in the blood which have been formed in the body, and which have been allowed to accumulate in the blood on account of inefficient activity of the excretory organs. This condition of things may be observed after prolonged constipation, and is the cause of chronic diffuse neuritis. The presence of these excrementitious substances in the blood undoubtedly may cooperate with other causes in producing insanity. Similarly, the delirium, which occurs in diseases characterized by a considerable elevation of temperature, and which seems to be allied in its nature to insanity, is believed to be due to the irritant action of blood overheated, and contaminated with the products of destructive metamorphosis. This action is observed earlier, and is of a more serious character in cases where the nervous tissue have already been subjected to the irritant action of alcohol. There is also some ground for the belief that sewer-gas and miasma — the specific morbid agent which produces the periodical fever — are both occasional causes of insanity.

The consideration of insanity, due to lesions of other organs than the brain, that due to injuries of the brain, and that occurring secondarily to other diseases, has been omitted, as being practically beyond reach of the sanitarian.

Although the conclusions arrived at have no claim to the merit of novelty, they are none the less important. They may be summarized as follows:

In order to prevent the occurrence of insanity it is necessary

1. To avoid the transmission of a hereditary tendency thereto,

by discouraging marriage between persons of like tendencies in this direction.

II. In persons with a hereditary or acquired tendency in this direction, to counteract the tendency as far as possible.

1. By ensuring regularly an adequate amount of sleep, and a sufficient quantity and variety of nutritious food.

2. By securing recreation and relaxation.

3. By maintaining the action of the secretory and excretory organs.

4. By avoiding entirely the use of alcohol and other cerebral stimulants.

5. By cultivating habits of self-control.

6. By encouraging objectivity rather than subjectivity of thought, breadth, and not narrowness of mental activity.

7. By avoiding anxiety and excessive mental exertion.

8. By taking disappointments philosophically, forgetting them quickly, and not brooding over the unpleasant occurrences of the past, but anticipating with cheerfulness the events of the future.

NEW HAVEN, CONN., April 22, 1886.

ESSAY.

INTRACRANIAL HEMORRHAGE IN ITS MEDICO-LEGAL ASPECTS.

By J. R. Lewis, M.D., of Hartford.

Of late years, legal medicine has become so linked with the practice of the healing art in all its branches that neither physicians, surgeons, nor specialists can wholly avoid its claim upon them, even if they would. Unfortunately, however, this fact does not always occur to the practitioner's mind when making a diagnosis; and consequently we find that significant points are frequently overlooked, or not thought of at the very time when an opportunity is best afforded for determining a medico-legal question which may be the outcome of an otherwise ordinary case. Under such circumstances a superficial observer will assign as plausible causes, certain symptoms or conditions, while to find the true ones may demand the best efforts of a skilled pathologist. Perhaps this state of things occurs more frequently in obscure injuries of the cerebro-spinal system than in any other class of cases; but these injuries cover an exceedingly broad field of investigation, and to treat of them in their relation to legal medicine would require a much more voluminous paper than this will be. It is our purpose to limit the present inquiry to only one form of them, — namely, that which is associated with intracranial effusions of blood, or to state our subject more exactly, it is to consider cerebral and meningeal hemorrhages in some of their medico-legal aspects.

When due to trauma, extravasated blood may be situated between the cranial base and the dura mater, or in the cavity of the arachnoid, or beneath the arachnoid, or in the brain substance, or (occasionally) in the ventricles. Inasmuch as vigorous effusions are poured out from dilated vessels, independently of any

violence, in such of the situations mentioned, it sometimes becomes an important medico-legal question to determine the true cause and origin of an intracranial hæmorrhage: that is, whether it was caused by external violent means, or by disease. When we remember the fact that fatal extravasations may be induced by a direct blow, without leaving a visible mark on the skin or scalp; and on the other hand, when we recall the well-known fact that apoplexy from cerebral hæmorrhage may cause a person to fall to the ground, and thereby produce a formidable-looking laceration of the integuments of the head or face, the diagnosis frequently becomes difficult, so far as general outward appearances go.

In support of such views as we may advance in this paper, it is our intention to relate practical illustrative cases nearly all of which are taken from notes either of personal observation or of medico-legal investigation. It will be useful to our purpose, however, to first avail ourselves of one or two leading cases of other observers. The following occurrence will fairly illustrate a condition that might lead to error in diagnosis had the true history been obscure.*—*M. J.*, a colored woman, age forty-nine years, was engaged in rinsing clothes, and while in a stooping position fell down as if she had been struck by a powerful blow. She was picked up insensible, and died in ten or fifteen minutes. The stroke occurred without any warning.

Autopsy, twenty-four hours after death.—The right temporal region was widely occupied by a clot in the subdural cavity; also extravasation in the subarachnoid space, and likewise at the base of cerebellum, and abundant about the pons and medulla; ventricles also contained coagula. The thoracic viscera were free from disease. The kidneys granular.

Comment:—“This was undoubtedly an apoplecticiform cerebral hæmorrhage. The blow which struck this woman down to earth and destroyed her life was delivered not by the hand of violence, but by the spontaneous rupture of some cerebral blood vessel, and the extravasation of blood in large quantity upon the brain. The speedy death was due to the circumstance that the medulla quickly became involved in, and had its functions absorbed by, the hæmorrhage. Thus the respiratory movements were soon

**Treatise on Apoplexy, Cerebral Hæmorrhage, &c.*, by J. A. Little, M.D., p. 381.

arrested, the circulation of the blood was stopped, and death produced. The predisposing cause of the hæmorrhage was probably the weakened condition of the cerebral vessels, due to kidney disease; the exciting cause, the increased tension of the cerebral arteries produced by sleep and a stooping posture.*

This anomaly explains the extensive subarachnoid and cerebral hæmorrhage which may occur, and quickly prove fatal, in a case known to be free from any external violence.

Our purpose is next to illustrate the fact that a severe injury of the head, clearly due to such violence, may be a secondary complication of cerebral hæmorrhage. For this purpose we avail of Dr. Longstaffe's statement, in a cerebral lesion, to a case bearing many points of interest.† We extract only that portion bearing upon the fact above noted. A man brought to the hospital by a policeman died in thirty-six hours. He was known as a drinking man, and had fallen in a fit on the street; it had not been observed whether he was intoxicated or not, but his breath did not smell of liquor. He was dull, stupid, paid no attention to questions, replications full and heavy, but not stormy, and appeared like a man under the influence of liquor. There was no scalp wound, but there was some blood which had come from an abrasion on his face produced by the fall. The urine, drawn by a catheter, contained neither sugar nor alcohol. In a short time he revived and became restless, then actively delirious, and finally lost to be tied in bed. The next morning he became comatose, and died that day.

Autopsy.—Over the most prominent portion of the left middle lobe of the brain, in the middle fossa within the dura, was considerable effused blood, deeply staining the tissues around. This blood came from a fracture of the left side of the skull, which was very thin. Upon the right side of the brain there was hæmorrhage within the dura, as and from the brain tissue, hæmorrhaging and compressing the right middle lobe. Overlying areas of the brain were involved, on the one side extracranially within, and on the other side external to, the dura. The conclusion reached was:—The cerebral hæmorrhage must have caused the man to fall, and striking his head, the thin skull was fractured at

* Clinical Lectures, Westminster Hospital. Memoir Longstaffe, M.D. *British Medical and Surgical Journal*, vol. 97, p. 991.

the root of the brow,—the side opposite to that of the previous cerebral hemorrhage.¹

In quite a number of instances in our experience have complications of this nature occurred, and they always have been attended with a medico-legal inquiry as to the priority of the lesions. Decided differences of medical opinion have arisen in some cases, and very few if any have been wholly free from doubt. The case of T. L. will be of interest in this connection. He had retired at night in his usual health. He arose from bed about four o'clock the next morning, he remembers as was supposed, and in going to the wash-room he fell, striking the top of his head with considerable force against a door casing. In his fall he overturned the wash-stand, together with its marble slab, pitcher, and basin, which came down upon him. His wife immediately sprung from the bed, and found him lying insensible and apparently lifeless. A physician was quickly summoned, and was at his side in a few minutes. He was found to be perfectly unconscious; breathing labored, but not stertorous; pulse rather slow and weak; pupils somewhat contracted and insensible to light. He remained unconscious about three-quarters of an hour, and then complained of headache, mostly felt in the top and front of head. After an hour or two he relapsed into a partially comatose state, and continued so till evening, when he became more lively and conscious. He was, however, restless, and would wander off into subjects foreign to questions asked him, though he would answer as to pain and soreness of head. He recognized those around him. During the first twenty-four hours he vomited four or five times. After a day or two he became more stupid and inclined to heavy sleep, but could be aroused, and would complain of pain in his head when awake. He continued in this state during the day-time for several days, but had restless nights. Gradually he became more and more insensible till death, which occurred on the sixteenth day after his fall. During the last two or three days he was wholly unconscious. There was paralysis of the right side of the body, and on the second day prior to death it became necessary to use a catheter. At other times during his illness he passed his urine voluntarily or involuntarily. Until the last four or five days his pulse rate was from fifty to eighty; during those days it increased in frequency up to one hundred and six and one hundred and twenty.

Autopsy.—On removal of scalp there was found a sanguiferous infiltration of about four inches in diameter over posterior vertex of skull, also an extravasation of blood anteriorly in right temporal muscle. No evidence of injury to the bone. On removing calvarium and dura mater there was found a very dark venous line of the whole posterior and middle surface of brain; also a few small spots of lymph-like material adhering to its exterior, and situated close to median line of left side. Longitudinal sinus was gorged with dark, clotted blood; hemispheres of brain were slightly adherent to each other. A clot of black blood and broken-down brain tissue was found situated immediately beneath and contiguous with surface of brain, in left hemisphere, near median line, and lying rather posteriorly to center. This clot was about the size of a hen's egg, and clotted blood could be seen dripping down between convolutions in its neighborhood. In the right hemisphere, just opposite before-mentioned clot, was another of smaller size, also situated in the superficial cortical substance. Another, still smaller in size, was found in cortical substance of middle lobe of right side, about on a level with top of ear. These were dark, gummy clots, containing broken-down brain tissue like the first mentioned. The brain was sliced carefully, but nothing noteworthy found in its substance. On cutting through tentorium cerebelli there was an unusual amount of serous flow, apparently coming from base of brain. The large arteries appeared to be perfectly healthy. No examination was made of any other portion of the body.

It was believed by his medical attendant that in falling he caught hold of the wash-stand and pulled it over on him; that in striking his head against the door casement, in his fall, it produced concussion of brain with insensibility; and that the cerebral hemorrhages were caused by the same blow. A different conclusion is reached by considering the case to be more like the preceding one. An apoplectic cerebral hemorrhage caused the fall, and striking his head against the door caused the extravasation of blood exterior to the skull. It is probable also, that the blow on the head sustained in falling produced concussion of the brain; and a stage of unconsciousness may reasonably be attributed to such origin. In that view there would be a blending of the causes of insensibility: first, the apoplectic seizure due to cerebral hyper-

riage, and second, the extension caused by the blow. We believe that such a mixed condition frequently happens.*

Had the histories of the foregoing cases been obscure, or had they been attended by suspicious circumstances of time and place of occurrence, it will readily be seen that questions having a very important medico-legal bearing would have arisen. Not only those inquiries which have to do with the guilt or innocence of an accused person are involved in cases of this nature, but, of late years especially, they are forced upon the medical examiner by cause of claims, or of civil actions at law, brought to recover damages against some corporation for alleged negligence, or for indemnity under a policy of accident insurance. It is no longer only a question of *disease or homicide?* but much more frequently one of *disease or accident?* Numerous cases of cerebral hemorrhage, wherein the latter question has been raised, have come, directly or indirectly, under our personal examination and investigation. The same question comes home to every practitioner of medicine in instances where the one or the other cause of the hemorrhage is to determine the payment of considerable sums of money. It thus resolves itself into a matter of medical diagnosis. The points involved may best be illustrated by actual cases.

C. F. G. C., a short, thick-set man, forty-four years of age and weighing nearly two hundred pounds, on being notified that his foundry building was on fire, hurried on foot to the place and actively engaged in trying to save his property. It was a cold December evening, and in going about the burning building he waded in freezing water ankle deep, and passed through a very dense, suffocating smoke. Soon afterwards he fell in an unusual condition, upon the icy ground. With but little delay he was removed to a place of safety, and a medical man summoned. The physician found him apoplectic, inconvulsive, breathing heavily and with difficulty. Warm applications were placed about the limbs, which were very cold and wet, and an attempt was made to

* *Proctor Brew* says, "Great caution is necessary in order to avoid, if possible, raising up cases of apoplexy with those of traumatic effusion. An accident consisting with an extravasation of blood into the cerebral substance does not necessarily imply cause and effect—the previous condition of the brain, or the outpouring of blood from diseased vessels, may in fact have been the cause of the accident. There is no doubt that many a case reported as one of traumatic effusion of blood in the brain was simply a case of apoplexy." *Bell's Surgery*, vol. 2, p. 355.

administer a stimulant. He vomited two or three times. On being taken home he was bled from the arm "very freely." His breathing became stertorous; he was profoundly comatose, and resuscitation again was resorted to, to the extent of "thirty or forty ounces altogether." He gradually sank, and died early the next morning.

Autopsy, forty-eight hours after death:—No visible marks of violence were seen upon any part of the body. With the exception of some congestion of both lungs, the thoracic and abdominal organs were in a typical condition. On examination of the brain there was found a blood clot of some two or three ounces in the base.

Upon the foregoing history and incomplete autopsy, an action was brought to recover the principal sum insured on a policy which was limited in its liability so as to cover only such deaths as should be occasioned solely by bodily injuries, effected through external and violent means, independently of any disease contributing to the production of the injury or lesion. In its medico-legal aspects the case suggested a solution of the following questions:—1. Was the cerebral hæmorrhage caused solely by external violence or force; and if it was, in what manner is the application of such violence to be explained consistently with the admitted facts? 2. Was the hæmorrhage due to a diseased state of the cerebral vessels as a predisposing cause, and to mental excitement and physical over-exertion as an exciting cause? 3. Could the several factors combined—mental excitement, physical over-exertion or fatigue, and chilling the extremities by wetting his feet in snow-water—have effected the hæmorrhage, had there been no pre-existing morbid changes in the system? After a careful inquiry into all the important facts, our conclusions were that to the first interrogatory the answer should be, No. To the second, that while there was no positive proof of such disease, yet presumptively it existed; and with that qualification the answer should be, Yes. To the third we answer, No, for the reason that increased blood tension alone could not rupture vessels which had lost nothing of their natural cohesion, and were imbedded in surrounding tissue which had undergone no change whatever in consistency. Our advice to the defendant company was in accord with these answers.

The theory in support of plaintiff's claim, as so well intimated,

was voluntarily that the fall of C. upon the ice was occasioned by having his feet accidentally slip from under him, so that he sustained the force of the fall or blow while in a sitting posture; and that thereby a jarring vibration was indirectly transmitted to the brain, which produced at the same time both concussion of the brain and vascular rupture. The immediate insensibility was accounted for by the shock of concussion; and the coma, followed by death, was but the natural result of the cerebral hemorrhage. This theory was unsupported by fact. The evidence of plaintiff's witness, as appeared by affidavit in support of claim, showed that C. "fell on his right side to the ground." Witness "saw about ten feet behind him; went to him as soon as he fell; took a portion of a cigar from his mouth; he appeared to be insensible; he breathed very heavily." This evidence is a description of insensibility due to cerebral apoplexy, rather than to concussion; while a fall such as described could not, in any reasonable probability, produce an indirect vibratory jar sufficient to cause so profound a loss of consciousness. Nor could it, in like manner, have produced rupture of cerebral blood-vessels that were perfectly free from disease. Were such grave results possible from such trivial causes, few brains would escape traumatic hemorrhage.

On the other hand, there were conditions present to favor the occurrence of cerebral hemorrhage from diseased vessels by producing an increase of arterial tension, viz. emotional excitement, with its effect upon the frequency of cardiac action; physical over-exertion or fatigue, with its depressing influences; and scolded extremities, inducing contraction in the cutaneous arteries. His age and plethoric habit, each being an important predisposing cause, were properly taken into consideration, in connection with the other facts, as being conducive to hemorrhage. Even though the autopsy, as conducted, had failed to exhibit an abnormal condition of the cerebral vessels, still there is sufficient in the disclosures which were noted to point out its probable existence. As a matter of fact, the reported examination of the brain ceased upon finding, though not very definitely, the locality of the hemorrhage and the proximate cause of death. The capillary vessels were not minutely examined. Neither were the kidneys examined except *in situ*. Taking the case as a whole, therefore, in our opinion there was a strong probability that the cerebral blood-vessels were diseased, and that, as above stated, the answer to interrogatory No.

2 should be given affirmatively. The case was prepared for trial, but an atrocious compromise adjustment caused the suit to be discontinued.

As a rule, it generally will hold good that sanguineous effusions into the cerebral substance and into the ventricles are spontaneous, that is, they are vascular ruptures caused by an increased tension of cerebral capillaries. We may instance such exciting causes of such pressure upon the arterial walls as the following; viz., mental excitement or passion; the plethora which results from over-indulgence in food or drink; physical effort, as in over-lifting or straining at stool; being suddenly chilled, as in taking a cold bath; the constriction of tight clothing about the neck or abdomen; and hypertrophy of the left ventricle of the heart. When the extravasations are meningeal only, and are found either between the bone and the dura mater, or in the cavity of the arachnoid, they are commonly traumatic, especially when accompanied by marks of external violence, or of contusion of the brain substance. If these coexisting signs are not found, such extravasations—that in the arachnoid especially—should lead to a close sifting of the history of any given case, particularly in an alleged homicidal assault. A fatal intracranial hæmorrhage may follow a blow upon the head, without an accompanying fracture of bone, but predisposing causes to the effusion sometimes exist.³

Traumatic extravasations of blood are found more frequently in the arachnoid than elsewhere within the skull. Our memoranda of cases of intracranial hæmorrhages show numerous instances of such extravasations. B. E. O., aged eighteen years, was thrown violently backward, striking his head upon a granite block. He was immediately unconscious, but could be aroused to some extent. No paralysis; pupils normal. On examination, found there was a depressed fracture of occipital bone and a scalp wound three inches long. At the expiration of six days he

³ Speaking of such predisposition, *Practical Hygiene* says he has met with extravasations in the network of tissue forming the cavity of the arachnoid. "In cases where there has been great anxiety of mind, in poisoning of opium, in drunkards, in maniacal patients, and in aged people, in whom these effusions depend, oftentimes upon the atheromatous deposit in the arteries of the brain and its membranes." *Extrav. of Blood in the Cavity of the Arach.*, *Med. Chir. Trans.*, vol. 35, p. 43.

became partially conscious, and complained of pain over right ear. Died on the eighth day after sustaining the injury.

Autopsy showed fracture from median line extending along lambdoid suture into and involving petrous portion of temporal bone; large rib three inches by one-eighth of an inch, along fissure, inside of dura mater and in the arachnoid. No sign of congestion, no sign of inflammation could be detected upon examination by microscope.

Another frequent locality of traumatic meningeal hemorrhage is between the skull and the dura mater. In such cases the escape of blood is commonly due to rupture of an artery in some one of the grooves for blood-vessels which run over the inferior lateral surface of the cranial bones. A simple fracture of the vault, of which there may be no exterior evidence, may produce extensive and fatal extravasation, when it involves the line of union of the grooves for the meningeal arterial branches. Within our experience, cases have occurred where a post-mortem finding of such fracture was the first thing to indicate that a blow upon the head had been sustained. W. H., a common laborer, aged about forty years, was struck by a falling plank which, according to his own statement and that of eye-witnesses, hit his back near the left side, and felled him to the ground. It was believed that his head sustained so direct violence, either from the plank or in his falling down. He complained only of pain in his back and left shoulder, upon which regions were to be seen slight bruises. There were no external marks whatsoever of injury to the head. Slight symptoms of shock were immediately manifest, and his mind seemed somewhat confused. With a little assistance he walked to a carriage, and was taken home, riding about one mile, and out spright all the way. Gradually he became unconscious, the right side paralyzed, sensorium breathing faltered, and he died in a comatose condition the next morning, about fifteen hours after the accident.

Autopsy, twelve hours after death. — A line of cranial fracture was discovered, which extended from the coronal suture down across the left anterior inferior portion of the parietal bone into the temporal, involving the groove for branches of the middle meningeal artery, and causing a rupture of one of those vessels. A blood clot, two by three inches, and more than one inch in thickness, was found at this locality.

Another case in point is that of A. H., thirty-seven years of

age, who was discovered lying at the foot of a flight of stairs in an unconscious condition. No one had seen him fall. He was a temperate, healthy man, but for about a year had been subject to attacks of dizziness. There were no visible marks of injury upon his person. He never recovered consciousness, but died comatose in about twelve hours. An autopsy revealed fracture of the skull, with rupture of the right middle meningeal artery, and a large blood clot pressing upon the dura mater. There was no disease of vessels at the base of the brain. The conclusion reached was that he had fallen down the stairway, either accidentally or in consequence of an attack of vertigo, and striking on his head, had sustained the fracture.

We will mention one other case illustrative of this class of injuries. W. S. L., who had been sitting by the side of a bed whereon his wife, an invalid, was lying one evening, arose and walked across the room, when he tripped and fell, striking his head, in the region of his right ear, upon a corner of the marble top of a bureau. He got up immediately, rubbed his head, remarked that it hurt him, ate his supper, engaged in conversation with his family, then, complaining of headache, retired to bed and apparently went to sleep. In the early morning his stupor attracted the attention of his wife's nurse, who sent for the family physician. On arrival at the bedside, about seven o'clock A. M., the doctor found the man "quite dead; the head, face and neck quite dark and blue."

Autopsy was held about forty-eight hours after death.*—The dependent portions of the body were discolored by venous stasis; finger nails and both ears very dusky, the right ear more so than the left. There was no external mark of violence whatever, except, upon the annule of the right ear, just where it joins the head, there was a trivial abrasion of recent origin, and of the size of an apple seed. The pupils were of the same apparent size and no other feature worthy of note was found. Upon incision the scalp was found to be very thick, and the areolar areæ, right side, discolored with extravasated blood. No other abnormal appearance was perceived until after cutting through the superficial layer of the right temporal muscle, when the deep layer was found to be infiltrated with blood throughout its whole extent, its central fibers were lacerated, and the whole muscle pres-

* See also, *ibide.*, by Dr. G. E. Ross.

presented a dark, chocolate appearance. After carefully removing this mass, a fracture of the temporal bone was discovered in its squamous expansion, just above and behind the ear. On removing the calvarium, a large clot of blood, nearly half a pint in quantity, was found. The line of fracture extended along one of the lower grooves or branches of the middle meningeal artery, and ruptured a branch of that vessel.



FIGURE 1.

FIG. 1.—Exterior view, natural size.



FIGURE 2.

FIG. 2.—Interior view of fracture.

It will be observed that there is a stellate fracture contained within an entirely distinct circular fissure. The spots of bone formed by one of the angular points of fracture was the cause of wounding the artery.

It is a common occurrence that persons are found dead, or lying at the point of death, under circumstances requiring an investigation by the coroner. At the request it may appear that nearly or quite all the evidence attainable, to determine whether death was due to external violence or to disease, is that which has been derived from and based upon a post-mortem examination of the body. When such an examination reveals an intracranial blood-clot, sufficient of itself to cause death, but having no coexisting signs either of violence or of disease, the medical jurist will be able to render no positively expressed opinion. But it can seldom happen that there is no pathological or other lesion, to give an indication one way or the other. There is always the localization of the clot, the significance of which has been considered in a preceding paragraph. These points,

whether with the posture and general appearance of the body when found, will aid materially in arriving at a reasonable opinion. Thus, if there should be made known something of the deceased person's habits or physical condition, such additional facts may assist in forming an opinion.

We will relate the foregoing case in illustration.—J. E. W., aged thirty-eight years, when last seen alive, early one evening started on horseback for home in the outskirts of the city. His dead body was discovered lying by the roadside, just before midnight, and his horse was grazing near by. A surgeon was early of the place, and in evidence before the coroner, testified that the body was lying on its left side, with the left arm's limb underneath. He evidently had been dead some time. Examined to see if he had sustained an injury, there was no external appearance of any except a scratch on the left side of the forehead, such as might have been produced by a fall in the sand, which was about an inch deep where the body lay. There was no appearance of any struggle or injury whatever. The impression of his face in the sand was perfect. An autopsy was made the next morning. The thoracic and abdominal viscera were all in a healthy and normal condition except as follows:—The bladder was much distended with urine it containing about three pints. The prostate gland was enlarged, and upon the surface of the left kidney was a small cyst containing a thick, gelatinous substance, which did not communicate with the pelvis; the kidneys were of normal size and color externally, and upon section the tissue was healthy except here and there some slight changes, such as might follow a congestion. No microscopic examination of tissues was made. The brain was next examined. In the posterior part of the right cerebrum, and communicating with and occupying the posterior corner of the right lateral ventricle, was a recently formed blood-clot, about the size of a large egg. With this exception the brain tissue, its meninges, nerves, and arteries appeared to be healthy. The witness stated that as a result of his examination of the body, in his opinion "the deceased did not die from a traumatic origin beyond question, nor did it seem probable or probable an idiopathic origin." The coroner's jury was more positive. It found that the man "died from injuries sustained by a fall from his horse."

It was at this stage of the case that it came into our hands for

investigation. After full inquiry into the facts, our conclusions were that the man dropped lifeless into the position in which he was found. The location and size of the clot, we think, indicate that. The clot must have formed quickly, for one could not live long enough for a slow formation of so large a clot in that locality. The appearance of the body, as it lay on the road, indicates that he stirred not even a finger after he fell. The trivial wound on the face was caused by the sliding motion of the skin on the ground as he struck the ground, and is of no further importance in the case. There was no external bruise, no extravasation in the tissues outside the skull, nothing whatever to show violence to the head. Within the cranium there was no appearance of contusion, no laceration, no meningeal extravasation. There was the blood-clot in the brain substance, as above described. — "only this, and nothing more." It was learned that the horse is rode that night was a quiet, docile animal, he owned, and was accustomed to ride. He had too experienced a horseman to be unseated by a stumble. There was no reasonable way to explain the manner of his leaving the saddle, except by his having been forcibly dragged from the saddle, or by his falling inevitably therefrom. There was no evidence of an assault, either by marks on his person or by traces in the mud. The facts appeared to us as pointing almost conclusively to a spontaneous cerebral hæmorrhage which caused him to roll out of the saddle and fall dead to the ground. Nor is the report of autopsy wholly devoid of pathological inferences. There probably was kidney disease which was not recognized; there was probable retention of urine, with a distended condition of the bladder; and in the history of the case there was the additional fact that he had spent a somewhat convivial day, though he was not believed to have been actually intoxicated. The only possible way in which we can comprehend the occurrence of a fall from the saddle prior to the hæmorrhage is, that he may have been asleep, and while in that state have fallen and jarred the brain, no serious or extrinsic being already in a pathological condition predisposing them to rupture.

Instead of being found dead, or even in a wholly unconscious state, as were the preceding cases we have related, it more frequently happens that the persons who have been stricken down in the streets by a spontaneous cerebral affluence have been found in a dazed or unconscious condition. Under such circumstances they

sometimes refer the cause of their trouble to an accidental fall, or to a stumble against an obstruction, or to a blow at the hands of an assailant. We have known medical attendants to accept such statements as being in accord with the symptoms, even when their patients have described what might be regarded as precursory signs of an impending apoplectic stroke. Omitting details, we will mention, in illustration, the case of J. C., aged fifty-six years, who was found in a huddled position on the sidewalk, which was icy and slippery, and was leaning against a telegraph post. He was taken home: there was paralysis of one side; spoke of falling, saying to "took a week spell," and fell against the post. He vomited, complained of pain in his head, gradually passed into a comatose condition, and died about forty-eight hours after the fall, of compression produced by a cerebral blood-clot. The case of E. R., aged forty-nine years, is similar. He fell to the ground and was found lying thereon; was assisted to a sitting position, said that when he came to the spot where he fell, he "felt a dizziness in his head and had to stand a short time." The fall produced a slight contusion on the back of his head. Paralysis of left side became strongly marked, and he suffered pain in his head. For some three weeks there was little change in his symptoms, he then became comatose, and died on the twenty-eighth day after his fall, of compression due to cerebral hæmorrhage. In each of these cases causes for pecuniary indemnity under accident policies were persistently urged on the allegation that the deaths were caused solely by traumatic injuries. Dr. Draper mentions a case of this nature that came under his investigation as medical examiner *—C., aged thirty-three years, was found lying in the middle of a street, having an ugly reputation. He could only give a confused account of his acts; he said, "Jimmy Murray struck me." He complained of pain in his side and head, making repeated allusions to the latter pain. His utterances led to a suspicion of insanity. Death occurred about thirty-four hours after he was found in the street. Post-mortem examination disclosed no traces of the alleged beating. In the brain substance was found two clots, and cerebral hæmorrhage was the certified cause of death. In his able monograph thereon, Dr. Draper aptly remarks:—"Cases

* Illustrative Cases, Med Examiner. F. W. Draper, M.D. *Trans. Mass. Med. Soc.* 88, Vol. I, p. 22.

of this kind offer the opportunity for the application of forensic medicine in its highest function; they demand patient investigation, an unbiased judgment, deliberate caution, intelligent search for truth, judicious reasoning. Upon the answer to the question, is such instance, 'What caused this person's death?' depend not only individual interests, but in the broadest sense the remuneration of public morality and the promotion of justice.

In mentioning the various pathological conditions that may be present in cases of cerebral hæmorrhage, when the foregoing question, — 'What caused this person's death?' — was the subject of inquiry, we have in the preceding paragraphs called attention to chronic renal disease, to hypertrophy of the left ventricle of the heart, and to degenerative changes in the arterial arteries of the brain, as being points of more than ordinary significance. So frequently have we found sanguineous effusions traceable to one or to all of these causes, in cases where the origin was supposed to be traumatic, that we have been led to believe there is a much larger ratio of these than ordinary statistics indicate. It therefore may be reasonable in us to urge upon every one, when making a neurological autopsy, to dissect, and microscopically examine if need be, the arterial anatomy of suspected tissues, in order that the morbid changes may be intelligently recognized and proven, or negatively shown to be absent.

It is not our purpose to discuss — on the contrary, we would avoid — all controversial points which have been raised in connection with the pathology of such cases. In lieu of that, we would suggest that the leading facts to be borne in mind as a microscopic search to determine whether a cerebral effusion is of spontaneous or of traumatic origin, are these: — 1. Abnormal changes of the arterial vessels of the brain are almost always present in cases of spontaneous effusions into its substance.* 2. A sudden increased

*Of the morbid changes in the walls of cerebral vessels, by far the most frequent is that described by Charcot and Bouchard as being arterio-sclerosis. The seat of these arterio-sclerotic dilatations is upon the arterioles and they usually are visible to the unaided eye. They are described by Somchard as looking "Like small glass-like particles varying in diameter from two-sixths of a millimetre to one millimetre, and sometimes even a little more, attached to a vessel which is visible to the naked eye; a single line of lens suffices to distinguish it clearly; the diameter of the vessel may vary from a third to a tenth of a millimetre, to a breadth of a millimetre,

arterial tension, from whatever cause, is likely to rupture the vascular walls when they are diseased. 3. Hypertrophy of the left ventricle of the heart may produce increased pressure.* 4. Granular degeneration of the kidneys is intimately associated with the hypertrophy noted and also with cerebral and other hemorrhages.† Whether hypertrophy of the left ventricle is secondary or primary, in its relation to contracted kidney, is immaterial in our present medico-legal inquiry. It is sufficient to know that they coexist frequently; but as we have heretofore stated, it is not probable that these conditions, of themselves, could produce a rupture of perfectly sound cerebral vessels. When, however, the capillary vessels have become unusual, either through the formation of miliary aneurisms or by fatty degeneration, or have become more susceptible to the force of the pulse-wave because of adhesion of the larger vessels,‡ then the increased tension produced by hypertrophy of the left ventricle is unquestionably sufficient to cause vascular rupture.

The color of these intracerebral vessels according to the state of the blood which they contain, and the condition of their walls. When the wall is thick, the secretion is of a more or less deep violaceous color if the contained blood is rigid; if, on the contrary, the blood has been long coagulated, and is already transformed into fatty granules and lamellae, the secretion is reddish-brown, ochrey, or even blackish." *Pathology of Cerebral Hemorrhage*, Charles Bonnard, translated by T. J. MacLagan, p. 77. The other diseased conditions of the arterial vessels of the brain which are associated with intracerebral hemorrhages are, fatty degeneration and adhesion.

* Not those forms of hypertrophy which follow aneurisms in the cardiac vicinity, nor those which are developed by valvular disease, are included in this statement.

† This fact which fact requires repeating, is that a passing condition, DeLissey says, "Perhaps, partly in consequence of the state of the arteries, which chronic renal disease produces, and partly in account of the deficiency of fibrin in the blood, there is a marked hemorrhagic tendency in continued cases of granular degeneration. Bleeding from the nose often happens, and sometimes proceeds to an alarming extent. This symptom seldom occurs in connection with either of the other forms of renal disease. The most disastrous way in which the hemorrhagic disposition shows itself is by extravasation with the skull." *Pathology and Treatment of Diseases of the Kidney*, H. DeLissey, M.D., p. 132.

‡ The influence of atheroma is supposed to be exerted indirectly, that is, by rendering the larger arteries more rigid, and thereby allowing the blood to reach the arterioles without having the force of the heart impulse nullified, as it would otherwise be by unusually rigid walls.

An almost typical case in illustration of the views here advanced came under our official investigation. We were advised that E. J. R., aged sixty years, by slipping upon some ice had fallen upon his back, and thereby sustained an injury of the head, attended with almost uncontrollable nose-bleeding; and that after an apparent improvement, with progress toward recovery, grave brain symptoms appeared, and he gradually became comatose and died, on the forty-fourth day subsequent to the fall of traumatic injuries sustained by the accident. A more complete history of the case informed us that the epistaxis commenced two hours after the accident, and was not wholly arrested by plugging until after the lapse of several hours. He had had previous to the fall attacks of violent vertigo, and spasms of the muscles of the calves of the legs. His medical attendant, at the time of his accidental fall, found albuminuria acute with a specific gravity of 1010. He had occasional attacks of vomiting, but apparently improved gradually in health, so that he became able to go out of doors unattended, and was able to use his pen in writing, up to about the twenty-eighth day after the fall. Symptoms of brain trouble then became manifest, with, as at first noticed, some difficulty in pronouncing the labial letters. Later on he became excited, talked incoherently, and gradually sank into a state of coma in which he died.

Autopsy, about sixty-eight hours after death. — On removing scalp from the cranium, some bleeding vessels were seen; scalp was pale and anæmic. There were no signs of congestion over the occipital bone. On removing the calvarium, the dura mater was found to be somewhat adherent to the skull, and its vessels were moderately injected. There was some serous effusion under the arachnoid all over the surface of the brain. Cerebral hypostasis of the posterior surface of the cerebellum was observed. On removing the arachnoid, neither congestion nor extravasation was found on the inner surface of the skull or in the membranes. The basilar and other arteries of the base were found to be markedly atrophied. As the brain was sliced, and the lateral ventricles brought into view, they were each found to contain about half an ounce of serous fluid. Beneath the floor of the left ventricle was found a blackish granular at least half an inch in diameter, the center being firm and the surface soft and waxy fluid, the surrounding brown substance being purgy and dissolved by the blood. No other hemorrhagic spots were discovered. On opening the thorax the lungs were ob-

amintended found to be healthy in color and crepitant all over. The heart was hypertrophied, the left ventricle wall was three-fourths of an inch thick, the mitral valve was thickened, right ventricle also hypertrophied; tricuspid and aortic valves normal. In the abdomen the liver and spleen were found to be normal; the right kidney small and granular, its capsule adherent but could be peeled, its cortical portion atrophied. The left kidney was small, but larger than the right, and presented the same characteristics.

Comment:—“What caused this person's death?” Assuming that the immediate cause was the one alleged,—i. e., the blood-clot in the brain,—it is proper to inquire, next, Was the clot of traumatic origin and formed at the time of the fall on his back six weeks before? In the light of the history of the case and of the autopsy, it seems to me almost to ask the question; and yet it was affirmatively maintained, and in a most persistent and strenuous manner. Our conclusions were:—*First*, that the cause of this man's death was granular disease of the kidneys. In consequence of chronic poisoning, or possibly of the cerebral clot, the fatal condition of coma ensued. His disease had been of insidious standing, although his symptoms had not been so marked as to require him to seek medical aid prior to the attack of nose-bleeding. He then, however, spoke of having had diseases of skin, rheumatism, vertigo, untidy gait, and localized cramps; which symptoms taken into account with his age, and the fact that his urine was of low specific gravity, containing albumen and probably other pathological elements, pointed to a chronic kidney disease. Second, the epistaxis was not immediate, as it would have been if solely due to external violence. The effect of so potent a bleeding would be to relieve the arterial tension, and thereby prevent the formation of a blood-clot. Third, there had been no paralysis from any cause until some four or five weeks after the fall and it was at that comparatively late date that the brain symptoms became marked. It was then, in all reasonable probability, that the clot was formed, and it was then, necessarily, a purely spontaneous effusion, poured out from the ruptured walls of diseased arterioles. The combined influence of an unusual pressure by the hypertrophied left ventricle of the heart, and the loss of power to modify the impulses of the larger cerebral vessels because of their atheromatous condition, were quite sufficient to cause the lesion. As soon as the system had recuperated from the profuse nasal hemorrhage, then the site-

rial tissue became grosser, and it was then, and not till then, that the clot was formed.

Cerebral effusion of blood into the ventricle is of less frequent occurrence than into the brain substance. We have occasionally met with it, however, under the same general conditions. H. A., aged forty-seven years, fell upon the sidewalk in front of his residence. No important constitutional symptoms followed as a result of the fall. Six days afterward he became suddenly unconscious, and died in about six hours. It was alleged that he "rolled off the fall."

Autopsy, nineteen hours after death, disclosed no marks of violence exterior to the skull. Brain substance and meninges normal. Left ventricle occupied by a large blood-clot. Conclusion reached was that there was no connection between the accidental fall of a week before and the cause of death.

In conclusion, we would mention one other medico-legal feature of cerebral hemorrhage. The condition of an intoxicated person so closely simulates that of cerebral compression and of concussion, that it is sometimes difficult to recognize the difference between the two states. Especially is this difficulty increased when, as often happens, a drunken man has sustained a blow upon his head by an accidental fall or while engaged in fighting, or at the hands of an officer making an arrest. Medico-legal questions should naturally suggest themselves at the time, to the medical examiner, under such circumstances. Even when there is no perceptible alcoholic odor in the breath, and no history of the case to indicate intoxication, serious mistakes in diagnosis have been made by medical men. It is not singular, then, that a police officer, on finding a man who has been rendered insensible by compression, should send him to the station-house for the night as a "drunk drunk." Such fatal mistakes ought not to occur, and need not if municipal laws required all drummy persons to be taken to a place where the law would require to reveal the true nature of the case could run without harm to the victim, and where he could be under medical observation. In other words, a hospital ward should receive all such persons. The following case, which came under our investigation, is one where an unfortunate mistake of this sort was made. H. W. R., who had been away from home, arrived by railway after ten o'clock P. M., and started at once to walk to his residence, which was located several blocks distant

from the railway station. At one o'clock a. m. he was found by a private watchman, about half a square from his home, in a half-reclining posture upon some door-steps, in an insensate condition. The watchman, finding that he could not arouse him from sleep, and supposing him to be drunk, took him to the police station, where he remained without any further care until about six o'clock that morning, when, upon examination, it was found that he had sustained a penetrating fracture of the cranium by a pistol ball. He died the same day. He had always been a temperate man and an estimable citizen.

The mystery of the shooting was never fully cleared away, but it probably occurred about eleven o'clock that night, in an alley where his traveling satchel was found. If it then and there took place, two hours passed before he was found by the watchman at a considerable distance from where the shooting occurred. One explanation of this is that, when shot, he was immediately rendered unconscious by concussion of the brain, and lay in that condition until the first stage of concussion had passed, when he partially regained his senses. He then, in a dazed condition, started for home, and the cerebral hemorrhage, which had been aroused by the effects of concussion upon the vascular system of the brain, became more abundant, and he sat or slumped down upon the steps where he was seen after found, laboring under the commencing stage of compression. His forced walk to the police station, and the disposition there made of him before his real condition was known, favored the increase of extravasated blood, and he died comatose.

Many of the semi-insane persons that enter into the custody of the night police have a more or less strong odor of sulphurous liquor in their clothing, which renders it somewhat difficult to determine whether there is the same odor in their breath or not. In doubtful cases, the examining surgeon should always test the system for alcohol.

ESSAY.

ON A FEW OF THE CAUSES AND THE TREATMENT OF SUMMER COMPLAINTS IN CHILDREN.

By DR. H. E. DEAN of South Cottery.

The physician should ever be as ready to give information on the subject of Hygiene, as is regard to medical therapeutical treatment. Especially should he take great pains to point out the ways and means of preventing diseases, and as he does this, he can discharge a very important duty by reminding those who have the care of children, that the possibly bad effects of the "heats of summer," in causing intestinal diseases, can be at least in some measure prevented by proper management, especially, that proper alimentation and suitable clothing, reasonably and properly used, are indispensable to the health of children; that "effluvia evolved from filth under the influence of heat," are exciting causes of summer complaints; that cleanliness, both within and out of doors, tends to prevent intestinal diseases as well as many others. These remarks may not be deemed superfluous when it is remembered, that although thorough measures are often taken to prevent or mitigate contagious diseases, comparatively little effort is generally made to prevent other diseases equally serious.

I would here call especial attention to one of the principal causes of these complaints, viz., sudden changes of atmospheric temperatures, and the way as food for kindred ailments, of which which has been too long exposed to the air. While it may not be possible for us to advance any ideas pertaining to those common causes, it may possibly do some good to invite renewed attention to them. The first mentioned cause can be rendered comparatively innocuous by suitable clothing and proper management. A sudden change from a cold to a warm atmosphere is very apt to

infant losses, but during the hot season, the injurious effects of improper exposure to cool, damp air have seemed to be more numerous. For instance, in the evening of a hot day, I saw an infant son of *doct.* with its chest, arms, and legs uncovered and cold. Before the next morning it was suffering from intestinal inflammation, the only discoverable cause being exposure of the skin to cool, damp air, soon after it had been for hours moist with perspiration. The sudden change from warm to cold, — caused a determination of blood from the surface to the viscera." Still, it is essential to an infant's health that it be kept much of the time in the open air. While doing this, in the infant not becoming over-fatigued, one remains out long, if at all, in night air, and let all possible pains be taken to maintain a healthy temperature of its body. Within doors, children should occupy dry, large, well-ventilated rooms, into which can enter, at least during a part of the day, the direct rays of the sun; and I would also advise that all the means for heating and ventilating these rooms be kept constantly ready for use, for even in winter they will be at times essential to the preservation of health and comfort.

Dr. A. Jacob, speaking of the air, often injurious at summer, as a cause of and means of perpetuating infant diarrhea, says: — "The worst out-door air, when cooler, is better than close indoor air. I have kept very bad, desperate cases out all night, upon the bluffs over the East river. The windows must not be closed. If possible, the child should be sent immediately to the country, and into the mountain air." This shows how important in these cases, wholesome air for the child is — breathes is deemed to be. Still, after the children have been removed from unhealthy surroundings, there yet remains the necessity of proper protection for them, as well as for their attendants, from the possibly bad effects of unwholesome changes of temperature; especially from the danger consequent upon the fall in temperature, which so often takes place, even in summer, during nighttime. Among the means for properly securing this necessary protection, must be included large, suitable rooms, which can be at all times thoroughly ventilated, and should occasion require, warmed by an open fire or in "well-furnished fire place," or a good substitute therefor.

A few words upon the subject of alimentation. One point, though referred to in textbooks, does not appear to be sufficiently dwelt upon. There can be no occasion for saying that infants

generally thrive best when fed in the natural way, but there is good reason, I think, for calling attention to the fact that in providing milk for hand-fed infants, too little pains is commonly taken to prevent it being injured by exposure to the air. I have had a limited but very satisfactory experience in feeding these infants on perfectly fresh milk. The milk was diluted as usual, care being taken to add nothing to it cool enough to lower its natural temperature.

Dr. C. H. F. Roach, in his work on "Infant Feeding," substantially says, "Children have much less power of assimilating heat than adults, and it may be true of some children that the volatile principles of milk are essential to the requirements of their organisms, while to adults and to most stronger children, they may be superfluous."

Whatever be the cause the fact is incontrovertible — the newer the milk is the better it is for the child. It is remarkable how well some children will thrive when fed upon milk immediately after it has been drawn, even when other means have failed. Doubtless there would be fewer cases of indigestion and diarrhea in hand-fed children if they could be furnished with a plenty of perfectly fresh milk. Much of the milk used has been carried quite a distance, its consequent agitation, and, in many instances, exposure to a warm temperature, hasten its decomposition, and thus impair its fitness for children's use. Moreover, it may be remarked that "the ease with which milk receives and carries infection," is an important reason for avoiding as much as possible the risk consequent upon its exposure to the air. I have, in a few instances, had a very satisfactory experience in feeding a sick or feeble child, for a while, wholly upon milk that had been drawn from the cow just before it was taken as food. The milk was given diluted in the usual manner, care being taken to add nothing to it cool enough to lower its natural temperature. Of course it will generally be deemed impracticable to furnish the hand-fed child with milk directly from the animal six or eight times a day perhaps, but I believe a more general acquaintance with the advantages of this method of feeding in some cases would cause it to be more used. I need not say that information as to the methods of preserving milk by keeping it cold, by adding to it an alkali, as bicarbonate of soda, recombinated with cream-tartrate require it to be kept

for a considerable time, is to be found in such works as that of Meigs and Pepper on "Diseases of Children."

A word about condensed milk. Dr. Estace Smith, in his work entitled "Wasting Diseases of Infants and Children," says: "Condensed milk given freely diluted, will even agree when fresh cow's milk cannot be borne. Infants immediately after birth, almost invariably do well upon condensed milk. This preserved milk, however digestible it may be, is no efficient substitute for the fresh milk of the cow."

Children who are fed for too long a time upon this food often become fatigued, and sometimes develop symptoms of scurvy. In no case should an infant be allowed to depend for nourishment upon preserved milk longer than is absolutely necessary. As soon as possible the condensed milk should be replaced by fresh cow's milk, diluted with barley-water."

Dr. South, however, speaking of two brands of condensed milk, says: "The extent to which both these milks are now employed is an evidence of their usefulness and appreciation by the public."

Preserved milk proves invaluable to children who are fed artificially and are compelled to travel by land or by water. The quality of the milk is not continually changed and the milk is always fresh and ready for use. Doubtless condensed milk has advantages, but, judging from my limited observation, I am satisfied that cow's milk, when it agrees with the digestive organs, is far preferable as nourishment. Dr. South also says, that when all efforts to bring up a child upon milk are likely to fail, he has known a mixture of one part of cream to three of water, to prove very beneficial. He sometimes adds to every half pint of this mixture half an ounce of fruit-water. In many cases it is deemed better to dilute the cream with barley-water. I do not refer to this preparation of food as something new or unobtainable, but mainly because I take pleasure in calling renewed attention to a kind of nourishment which I have occasionally failed to agree with a child better than any other.

In accordance with my intention I here offer a little of my experiences in treating the acute form of these diseases. Thirty years since the most common treatment was somewhat different from that of the present time. Especially were narcotics used more than thus now. The leucodes were little used as medicines, and not at all in the treatment of bowel complaints. I particu-

fully remember an epidemic that occurred some twenty-eight years ago. The patients with few exceptions were under two years of age. Many of the cases lasted from two to three weeks. Fever was often a prominent symptom at the commencement of the attack. The vomiting was sometimes very troublesome. In the severest cases the discharges from the bowels were copious, brownish, and watery. The extremities became cold, the pulse frequent and feeble; in short, the symptoms were those of utter prostration. When the treatment was commenced early it was customary to administer a mild laxative, as castor oil or syrup of rhubarb. Small doses of ipecacuanha, varying from one-half to a whole drop, or a little more, or Dover's powder, or Tully's powder with a small quantity of ipecac, were given once in three or four hours, and in some cases chalk was used.

In a few cases a small quantity of lime juice seemed to relieve the cramps and improve the state of the bowels. But when the stomach continued torpid and the discharges from the bowels were copious and watery, and the cold skin, feeble pulse, and other symptoms showed great exhaustion of the vital powers, as astringents did as well as the following, which was given in sufficient water, once in two or three hours, if the bowels continued to move. This medicine consisted of a mixture containing aromatic sulphuric acid one drachm, white sugar two drachms, compound tincture of cardamom one drachm, and peppermint water two ounces.

The effect of this mixture was to stop the vomiting and lessen the diarrhea. When there was pain in the bowels or the diarrhea still continued, it was given alternately with small doses of ipecacuanha. The abdomen, which was seldom if ever distended, was irritated with mustard or oily liniments and kept covered with flannel. It was customary for the attendant to take the child's limbs in his cold hands, and pulling them slightly, to rub them hard over head, especially when they were cold. This procedure proved to be an excellent way to warm the little patient's extremities. Stimulants, such as brandy, a few drops at a time, often repeated, were beneficial in some cases.

The nutriment for those not provided with breast-milk was a mixture consisting of cow's milk one part, and hot water, two parts, or a preparation of arrow-root two to four parts. The milk was occasionally omitted in some cases for a day or two. Chicken-tet or beef-tet was sometimes carefully tried when the milk dis-

agreed, but with little if any apparent benefit. I have since tried in such cases various kinds of nourishment, especially, in protracted cases, raw beef, which when properly prepared often does well. During convalescence, tonics, such as preparations of iron, were sometimes needed, and of course the proportion of milk was increased. Olive oil was applied to the child's skin once or twice a day, especially when after it had been cleansed with warm water. Nearly all the cases that I treated, save forty or more, recovered.

Five years later another epidemic occurred in my practice. The characteristic symptoms were vomiting, diarrhea, hot skin, frequent pulse, coated tongue, and nervous irritation. The discharges from the bowels at times consisted of bloody mucus, undigested food, etc.

The medical treatment consisted in the administration of opium, opesia, and oils of castor, with small doses of castor oil, which was usually given in the form of an emulsion, near the commencement of the disease. In four or five cases a little blue mass seemed to stop the vomiting and relieve all the bad symptoms. The dryness and heat of skin were somewhat relieved by careful bathing with warm water, followed by the application of olive oil, with which the skin was rubbed once or twice a day during the sickness, and if the child was weakly, during the convalescence. The abdomen was brooded and then covered with a light poultice. It was also irritated occasionally with mustard or something else, especially after sweating had commenced. Some of the patients became very weak and were greatly benefited by brandy. Between thirty and forty cases were treated, three of which terminated fatally.

Before quitting the subject of treatment I would offer a few words about the bromides. Since the bromides were introduced into therapeutics their aid in the treatment of children's diseases has been invaluable. The bromide of potassium does excellent service in many acute diseases. It never aggravates inflammation, generally lessens fever, relieves nervous irritation, and in many ways promotes the patient's recovery. I have derived valuable information from an essay on the "Treatment of Summer Complaints by the Bromide of Potassium," read by Dr. Salvador Carr, June 7, 1869, before the Medical Society of the County of New York, and subsequently published in the *New York Medical Record*.

I have a pleasant remembrance of my first observation of the

effects of *potassium* in a case of sympathetic infantile convulsions. Instead of the long-used valerian, Hoffmann's anodyne, etc., the bromide of *potassium* was tested with perfectly satisfactory results. In severe bowel complaints there is apt to be great irritation of the nervous system, especially, it seems, of the sympathetic nerve, the fibers of which are "so richly distributed to the coats of the vessels throughout the alimentary canal," as well as to the muscular coats of the intestines, etc. In these cases this bromide salt is unexcelled in its much-needed quieting effect on the nervous system.

I think for many years my success in treating bowel complaints has been enhanced by the use of these medicines, which serve not only to prevent the possibly bad effects of the opium so generally needed in these diseases, but also to hasten the cure. In treating inflammatory diarrhæa I have used them in connection with the common remedies for this disease. As I cannot add to my possibly recite what authors say concerning the use in this complaint of other drugs, as castor oil, sulphate of magnesia, ipecac, chalk, and many others, I would merely say that bromide of *potassium* has seemed to me to be very useful in the treatment of the acute forms of this disease, as well as of other bowel complaints, not only in children, but also in adults. For instance, about two weeks since I was called to an unhealthy tenement to see a child seven months old. For twelve hours its stomach had retained but little of anything, not even of the breast-milk on which it had been thriving. The discharges from the bowels had been frequent and bloody, the skin was hot and dry, and the pulse frequent.

The treatment in this case was commenced without the use of a laxative. Seven drops of laudanum and five of fluid extract of ipecac were added to twenty teaspoonfuls of solution of gum arabic. To another twenty teaspoonfuls of this solution was added a scruple of bromide of *potassium*. These preparations were given alternately, an hour and a half apart. The hot and dry skin was carefully bathed with warm water, and twice a day rubbed with olive oil. The abdomen was fomented, positioned, and slightly irritated. The child constantly improved and is now well.

Dr. DeCosta says, that "Bromide of *potassium* hinders or even prevents many of the disagreeable symptoms of opium." My experience has led me to conclude that the combined effects of the two medicines is often better, in these cases, than that of the

opium alone. Moreover, the sedative effect of the bromide on the nervous system has appeared to usually aid in relieving the gastro-intestinal irritation. I would have it understood, however, that in treating such cases, I use castor oil, sulphate of magnesia, opium, ipecac, etc., as they are used by others. I have only intended to say that, in the treatment of inflammatory diarrhea, the bromides are capable of rendering valuable aid. I would say that while these medicines are extremely useful in the treatment of this disease, there is comparatively little risk in using them. The effect of astringents needs to be watched. Acid must be used with a good deal of caution. I have related the symptoms that led me to try it.

It would be useless to give here the treatment for cholera infantum, recommended in text-books. I will venture, however, to call attention to bromide of potassium as a remedy for this disease. It can be advantageously used, perhaps, in connection with other drugs, but I now propose to show mainly what it has done alone. I have successfully treated quite a number of cases with it. A year ago last summer, I treated a few cases, two of which I particularly remember. One of these patients was a year and a half old, the other nearly two years. The symptoms were almost constant vomiting, frequent, large watery discharges from the bowels, very frequent, hardly perceptible pulse, and cold extremities. Half a drachm of bromide of potassium was dissolved in an ounce of mullage of gum arabic, and thirty drops given every hour. The vomiting soon ceased, and the next day the discharges from the bowels were few and natural in color. There seems to be different opinions as to the quantity of the bromide that constitutes an effective dose. Dr. Irving C. Hays, referring to cholera infantum, says: "Bromide of potassium is almost a specific for this affection, careful attention to diet being observed."

The following formula is used.

℞ Potassii bromidi — ʒ — ij
Mucilaginis acaciae — ʒij

Dose, from ten drops to a teaspoonful, regulated according to circumstances. Occasionally a drachm of kamagra is added to this recipe. The food is prepared by pounding a small quantity of fresh beef in a ham cloth, and expressing the juice, to which a very small seasoning of cayenne pepper is added. — *Napley's Infant Therapeutics*.

Dr. William B. Hazen, speaking of the use of the bromide in the treatment of the summer complaints of children says: "The dose must be large to be effective. Boregard of this fact has caused disappointment." Speaking of the benzoate treatment of epilepsy, he says: "If there is much acidity of the stomach, a few grains of an alkali should be given with them to prevent the formation of irritating benzoates." May not the suggestion be of use in the benzoate treatment of other diseases?

The following cases are related by Dr. Carr, whose experience is in favor of small doses:

"Joseph Frost, six months old, born of healthy Irish parents, has two teeth, and is fed from the bottle. He was seized with cramps, vomiting, and almost incessant purging. I prescribed a mixture of half a drachm of bromide of potassium in two ounces of murelago, giving thirty drops every two hours. After the third dose all alarming symptoms disappeared and the child recovered."—John Smith, twenty-eight months old. For several days he had been suffering from vomiting and purulent discharges from the bowels. I gave twenty drops every hour of a mixture of ten grains of bromide of potassium in an ounce of murelago with twenty minims of tincture of bromine. After a few doses the child slept, and upon awakening asked for food; vomiting ceased. The flux from the bowels changed from purulent to yellow, and the twenty-four to thirty passages every twenty-four hours, diminished to six. He became convalescent six days from the commencement of treatment."

The doctor says: "I have had one hundred similar cases, varying in age from three to thirty months, nursing or weaned. I have treated them with the benzoate of potassium and murelago, and have never found it to fail." He also says: "I generally prescribe from ten to thirty grains of the benzoate in an ounce of vehicle, either rose-leaf or orange-flower water, for their pleasant taste, the dose being ten to thirty drops every hour or two, varying according to the age of the patient and the violence of the case. I add one anstringent with it, but if required, I select the tincture of bromine. For local application, I mix the salt with colostrum, generally using one scruple of the flux in an ounce of the latter, spreading the mixture with it on the parts affected. When used in large doses, I have not found any

satisfactory results from bromide of potassium; but I always succeed with small doses."

In addition to the remarks on treatment I would say that while it is well to recommend the removal of children to more salubrious localities, that they may escape the bad effects of hot weather in unhealthy places, still, since a large majority of them must of necessity remain at their own homes, it is both a public and a private duty to make effective efforts to secure for these homes the best possible hygienic conditions.

It may not be amiss for me to conclude by saying that while the State *usually* provides text books on hygiene for our common schools, it would be well for philanthropists to make an effort to furnish every household with a manual of the *best* hygienic rules, calculated to promote the health and physical development of children. As a result, there might be in our schools, more children who are strong, healthy, and well fitted for the task of acquiring an education.

ESSAY.

THE NEW HAVEN WATER SUPPLY.

A CRITICISM OF THE RESULTS OF ANALYSES OF THIS WATER, AS GIVEN BY DR. ARTHUR J. WOLFF, IN THE REPORT OF THE CONNECTICUT STATE BOARD OF HEALTH FOR 1885.

By HERBERT E. SMITH, M.D., AND WM. E. LOCKWOOD, M.D.

(Presented to the New Haven County Medical Society.)

Statements have appeared at various times in the newspapers of this city, purporting to be the result of analyses of our water supply. The remarkable character of these statements has given rise to some comment among those conversant with the matter, but has not called forth any public criticism. The appearance, however, of similar reports in one of our State publications, gives to them much authority as to justify a public notice.

The statements in question are those made on the New Haven water supply, in a paper entitled "The Sanitary Examination of Drinking Water," by Arthur J. Wolff, M.D., of Hartford, and published in the Report of the Connecticut State Board of Health for 1885.

In Table I we quote Dr. Wolff's results, omitting, however, those on nitrites and nitrates. As he employed the numeral and of grains per imperial gallon, for solids and chlorine, we give with his figures their equivalents in parts per million. The figures in parentheses will be explained below.

I.	TOTAL SUPPLY.		CONSUMPTION.		AVERAGE.	
	Gallons per gallon.	Feet per million.	Gallons per gallon.	Feet per million.	Feet.	Absorbent.
5 From Lake Whitney, New Haven,	117.6	257	7	199	9.011	0.341
6 From reservoir, Lake Salmonfall, New Haven,	109.1	212	7	199	9.012	0.228
7 From supply pipe of Prof. Linsley's residence, Elm Street, New Haven,	128.3	237	7	199	9.013	0.200
8 From reservoir on Prospect Street, New Haven,	25.62	305	7.4	160.7	8.9123	0.270

The water supply of this city is drawn from several sources. Lake Whitney is formed by a dam constructed across a small stream; it also receives the water of a considerable area of swampy land. Lake Salmonfall is a natural pond, fed by springs and small streams. The water of these principal sources is mixed in the pipe with that from Lake Windermere and the Malby Ponds, which are likewise supplied by springs and small streams.

To one familiar with the conditions of water from such sources, it is hardly necessary to suggest the possible inexactness of the above figures. For the purpose of comparison, however, we introduce below, in Table II, some results given by Prof. Mallet in his elaborate report on water analysis, published in the Report of the National Board of Health for 1887. The first three he classes as "surface water from streams of comparatively small size and short course."

In III we give the results of an analysis of the Salmonfall water, by Prof. R. H. Chittenden, taken from his manuscript.

In IV are given our results in several analyses of the New Haven supply. The samples, with the exception of those of Dec. 22th and Nov. 17th, were drawn from the faucets in the chemical laboratory of the Medical Department of Yale College, where the analyses were made.

II.	Source of Water.	Total Solids.		Calcium.		Magnesium.	
		Grains per 100 gal.	Ppm.	Grains per 100 gal.	Ppm.	Ppm.	Ppm.
11	Cochituate Water Supply, Boston, Mass., Sept. 7, . . .	2.5	40	0.23	3.6	0.07	0.53
12	Croton Water Supply, New York City, July 25,	5.3	80	0.64	6.47	0.02	0.150
13	Lake Roland Water Supply, Baltimore, Md., July 22, . .	6.4	100	0.14	2.33	0.01	0.100
14	Lake Champlain Water Supply of Burlington, Vt., May 12,	4.1	50	0.84	6.7	0.003	0.14
III.							
	Lake Saltonstall, New Haven, May 25, 1885,	2.1	51	0.38	4.79	0.007	0.031
IV.							
	New Haven Water Supply, May 8, 1885,	2.2	54.8	0.28	4.79	0.003	0.130
	Oct. 26, 1885,	4.8	78.8	0.39	4.79	0.010	0.720
	Elm Street, Oct. 27, 1885, .	4.2	71.9	0.29	2.90	0.001	0.112
	Nov. 7, 1885,	2.9	69.7	0.39	2.49	0.007	0.090
	Pumpet Brook Reservoir, Nov. 17, 1885,	5.4	99.9	0.28	4.79	0.004	0.100
	Dec. 1, 1885,	2.7	65.2	0.36	4.45	0.004	0.100
	Jan. 16, 1886,	2.5	42.8	0.29	2.62	0.009	0.134
	Feb. 18, 1886,	2.6	44.5	0.22	2.77	0.005	0.150

In the water of ponds containing considerable quantities of vegetable growth, the amount of ammonia and albuminous material varies greatly at different seasons. A comparison, therefore, for our present purposes, can make fairly to make between results of the relatively constant, though perhaps less significant factors, total solids and chlorine.

In the above tables our results are seen to present a general agreement with those obtained by others from similar waters. They are also seen to agree with Prof. Chittenden's analyses of one of the city's supplies. They are therefore probably correct. It will be seen further that they do not agree with Dr. Wolf's results.

Dr. Wolf received first, the samples marked 5, 6, and 7, and a report sent by him to the Secretary of the Board of Health appeared in the *New Haven Register* of Oct. 25, 1885. The figures

as then published are given in parentheses in Table I. They have been verified by one of us by comparison with Dr. Wolf's manuscript.

Why some of the figures expressing his results were suppressed, and others altered in the final report, is only conjectural.

The uniformity of the four results on chlorine is remarkable, as is also the statement on page 282, that there were insignificant amounts of chlorine.*

Later, when we learned that the water of the Prospect Street reservoir was to be analyzed, we requested that a sample be sent to the Medical School laboratory, and in response received a specimen from the Secretary of the State Board of Health, with the statement that he had collected it at the same time and place as the one sent to Dr. Wolf.

We here repeat in direct comparison Dr. Wolf's results and ours, obtained from samples collected at the same time and place:

Samples from Prospect Street Reservoir	TITRIMETER		CALCULATED		ANALYSIS, TITRIMETER METHOD	
	Alkalies per gallon	Phosphoric acid per gallon	Alkalies per gallon	Phosphoric acid per gallon	Free	Altogether
Dr. Wolf,	21.45*	96.	7.4*	105.7	0.0175	0.228
Authors,	4.58	23.9	0.289	4.8	0.024	0.188
* Impurities of Wolf's glass		10% gallon of 58.65 grains				

Without discussing the question of the value of conclusions drawn from a chemical examination of water, we may simply state that it is obvious that conclusions drawn from incorrect data must be valueless, and are likely to bring discredit on such work. It is, therefore, with the desire to expose what appears to be incompetence or carelessness that we have prepared this statement.

In conclusion we wish to say that we have no desire to champion the cause of the New Haven City water. For, though it is a water of very considerable purity, so far as its inorganic constituents are concerned, it is frequently contaminated with an amount of organic matter of vegetable origin, which, with sufficient care, could probably be considerably diminished.

SURGICAL NOTES FROM THE CASE BOOK OF A
GENERAL PRACTITIONER.—SERIES II.

BY WILLIAM C. WALK, M.D., OF NEWTON, CONN.

In presenting the Second Series of Notes from the Case Book of a General Practitioner, I have selected not those which are the most dangerous to life, or those in which operations for their relief are the most difficult to perform, but rather such as illustrate the large scope of cases which fall under the care of the general practitioner, and which, as a rule, are sent to the specialist in the large cities.

This paper will emphasize the facts as set forth in my paper in this body last year, viz.: That the general practitioner with the necessary knowledge (which all should have acquired before entering the practice of medicine) can perform such operations and take care of such cases with as good success as the specialist. The very liberal and kind manner in which the medical press received my last effort has been so gratifying, that it has been quite an important factor in preparing this paper. I consider this series fully as interesting as those previously reported for your consideration. Again my friend Dr. A. W. Longdon, with his skillful pen and brush, has illustrated the different cases, which I am sure will be fully appreciated by the reader, and will add not a little to the elevation of the *lay* as well as increase the interest in the *art*.

During the large surgical experience in the last year I have become more and more firmly convinced that thorough antiseptic is the only method to be pursued in the treatment of wounds. With complete and thorough antiseptic treatment all of the dread of many complications, which used to make the most brilliant operator quail, gives way, and issues are won with a degree of completeness which can be obtained by no other means.

DISEASE OF THE LOWER EXTREMITY OF THE THUMB.—OPERATION.—
REMARKS.

The following case is not presented on account of its rarity or that the operation for its relief was of a novel or peculiar character,

but because of the exciting cause which led to such grave destruction of bone tissue, which was so unique. I have never seen such a case, referred to in any of the text-books of the day, nor in the medical press. John T., aged thirteen, was sent by his parents to consult me in reference to a pain in his ankle-joint. Being absent from home, he went to another doctor in the vicinity, who diagnosed a dislocation of the joint, and with somewhat violent manipulation of the affected part, finally decided that he had



JOHN T. WITH THE CASE.

fractured it. The next day I was called to see him at his home. On my arrival I found no history of any accident, no fall or blow or account for the diagnosis of dislocation. On the second day preceding the one on which I saw him, he had found on rising in the morning that there was considerable stiffness and soreness in the joint, which gradually grew worse until the time he called at my office, at which time there was considerable swelling and pain. On the occasion of the manipulation of the doctor, the patient (who was an unusually bright and intelligent boy for his age), had suffered intensely, which suffering had increased in severity to the

time of my visit. I found him with a pulse of 124, temperature 101° , great thirst, suffering excruciating pain in the right ankle which was swollen badly and exceedingly painful to the touch. I also found the left knee and the right elbow somewhat swollen and painful, bowels constipated, urine scanty and high colored, no appetite, considerable headache. I made the diagnosis of acute inflammatory strumous, which all of the symptoms warranted. I prescribed for him one pill of salicylate of methionin, contin-



ing two and one-half grains, every two hours, and the following mixture, twenty drops every four hours:

R. Pyrex. iodide,	2j
Var. colch. sicc.	5ij

I also ordered the bowels to be thoroughly unloaded by the administration of a ten-grain dose of hydrag. chlor. mis., which was followed in six hours with a dose of castor oil.

On the following morning I found him much more comfortable. The pain was much less, and quite endurable, the swelling had subsided considerably, the bowels had been thoroughly unloaded through the combined action of the calomel and oil; temperature 100° , pulse 108.

The next day the symptoms were better still. The temperature and pulse were nearly normal; the pain, heat, and swelling still of

the joints had very materially decreased; the movements of the joint were not very painful. The case gradually continued to improve for the next two weeks, when every vestige of the rheumatism had disappeared. There still remained, however, in the ankle first attacked (and manipulated) a considerable degree of tenderness, swelling and pain, which could not be accounted for on any hypothesis of the rheumatic trouble. I soon noticed signs of suppuration, when I commenced the liberal application of hot water and poultices. In a few days the abscess was opened and after the evacuation of a considerable quantity of pus, I found that the surface of the condyle was detached of pericostium and that the periosteal inflammation extended quite a little distance up the bone. In about six weeks I decided to operate for the removal of the dead bone.

I was urged to this course on account of the boy's sufferings, and his increasing prostration and emaciation. So on January 15,



Figure 1. Ankle joint.

1884, with the kind assistance of my friend Dr. G. L. Porter of Bridgport, I made a T-shaped incision, carrying it down to

the bone carefully lifting up the diseased periosteum, and, cautiously peeling it up, with the gong, hammer, chisel, and saw, cut the diseased portions away. The operation was tedious on account of the quantity of tissue to be removed, and our desire to leave every particle of sound bone that we could.

The illustrations accompanying this paper will convey the manner of the incision, and the extent of the excavations. In fact, when the operation was finished the whole lower extremity of the tibia was nothing but a bare shell. The wound was packed full of wet carbolineum (1 to 20), well bandaged, and felt splints placed on the inner side of the leg and ankle for support. The boy's health improved immediately. The reproduction of the bone commenced promptly, and in the course of the next six months the cavity made by the operation had entirely filled within much activity, the ankle being a useful one; in fact, he scarcely limps at all, and the deformity is only slightly noticeable. The result is that much was more than we had a right to expect, and much better than we had hoped for.

It is quite evident to me that the inflammatory reaction was mistaken for the infection (pyogenic) as it may seem, and the consequent manipulations, in order to cut a bone out of place, to stop the periodical inflammation which resulted in an extensive bone disease and destruction. I neglected to mention that the motion of the joint seems to be perfect, owing to the fact that manipulations were commenced soon after the operation.

EPITHELIOMA OF THE HAND — OPERATION AND RECOVERY.

On account of the rare and situation of the growth in this case I thought it of sufficient interest to report. I was called to see Mr. W., aged seventy-four, of Eastern Conn., American, who had an abnormal growth on the dorsal surface of the left hand. He gave me the following history:

About twenty years ago he knocked off a small piece of skin from the back of his hand, and at the site of his present growth. This was done while chopping wood, from a flying splinter. The wound did not amount to anything, but never quite healed. After a while it assumed the appearance of a wart, and if the top of this were knocked off it would cause considerable hemorrhage. It remained in this condition with but slight enlargement for about

twelve years, when it commenced to grow quite rapidly, and continued to do so up to the time of my visit. On examination I found a large epithelioma of the dorsal surface of the hand, which was of a hard texture at its apex, and soft and granular at its base. This horny part was over an inch long and as much in width. At the base was a house from which a most offensive odor came. The surrounding tissue was congested and looked sraggy and erysipelatous; it also caused him considerable pain at times. The best idea of the general shape and character of the



growth can be obtained by consulting the accompanying cut. At this time also the slightest injury would bring on a considerable hemorrhage which was not easily checked.

I advised its immediate removal, and on December 2, 1885, in the presence and with the kind assistance of Dr. J. D. Willerson of Newton, Conn., and Miss Anna M. Beale, M.D., of Belling, Conn., performed the operation by making an elliptical incision commencing below the wrist and extending forward to the metacarpal phalangeal articulation. The edges of the wound were brought together as well as possible and the whole sprinkled with iodoform and dressed with antiseptic dressings, carbolized lint, 1 to 1,000, being used in all of the dressings, and for the

sponges during the operation, the instruments being placed in the usual carbolic solution, 1 to 30.

The case was left in the charge of Dr. Brade, to whom due credit must be given for the skillful after-care and excellent results. In about two weeks the wound was perfectly healed, and the man restored to health.

DISASTROUS RESULTS FOLLOWING THE INJECTION OF PURE CARBOLIC ACID FOR THE RADICAL CURE OF HYDROCELE.

The following case is exceedingly interesting, on account of the severe and nearly fatal results following the injection of pure carbolic acid into the scrotal sac for the radical cure of hydrocele. Out of the many cases of this common disorder which, in an active practice of nearly seventeen years, I have treated, I never have seen a single instance which approaches the severity of the subsequent inflammation, and the destruction of so much tissue, as occurred in this case. Many operations have, from time to time, been suggested for the radical cure of this condition, but I fully believe with Dr. Sars of New York, that no means have been employed which will give such satisfactory results, and cure so large a percentage of cases, as the old one of evacuating the contents of the sac, and injecting into it the tincture of iodine. I think that failure to get the best results from this treatment lies in the fact that the quantity, as ordinarily injected, is not only too small, but is not fully distributed all over the sides of the sac.

I am in the habit of using from two to four drachms of the tincture, kneading it well, and being sure that it has come in contact with every part of the lining membrane, and leaving it so. In upwards of sixty cases I have not in a single instance failed to effect a permanent cure, and without excessive, and never with destructive, inflammation. If this plan is carefully followed I am sure the results will be all that can be desired, both for the patient and operator. The use of carbolic acid has been advocated warmly by many members of the profession, but I am sure that after reading the following case carefully, they will hereafter use it with extreme caution.

Mr. B., aged forty years, American, well built, singular, of full habit, weighing one hundred and forty pounds, a farmer by occupation, who had always enjoyed good health, and for me on Sei-

urday, February 27, 1884. On arriving at his home he gave me the following history:

About a year ago he noticed a commencing enlargement of his scrotum, which gradually increased until it was nearly three times its ordinary size, in which condition it caused him so much inconvenience that he decided to get some surgical advice about it; so that six months after his discovery he consulted a prominent physician of Bridgeport, Conn., who diagnosed hydrocele, and advised tapping and injecting it, which was consented to, the operation being performed at that time, but with no results whatever. In a short time he noticed that the fluid had commenced to re-accumulate, and at the end of six months more, with the scrotum about the same size as at first, he consulted the same physician, who this time suggested that the sac be injected with pure carbolic acid, which was readily agreed to. The operation was performed, the patient returning to his home the same day, which was Saturday, February 20, 1884, and the following Saturday I visited him for the first time. Immediately considerable inflammation developed, which the doctor had predicted as possible, and for which he had given a prescription for a lotion of lead and opium to apply externally in the event of its becoming excessive, and some granules of morphine to allay the pain, if it should be necessary to use them. In spite of these remedies, which were faithfully used, the inflammation spread, and the resulting suffering was terrible. Supposing, however, that this was as it should be, and the result to be hoped for in order to effect the cure, he bore it patiently, and did not call in professional aid until the following Saturday, when I saw him, and found him in the following condition:—tongue heavily coated; pulse 128, small and weak; temperature 102.7°; skin hot, and covered with a profuse perspiration, which rapidly cooled. The scrotum was swollen very much, exceedingly sensitive to pressure or manipulation, and was at least five times its natural size. It was congested almost purple in hue, denoting arrested impulsion to the local circulation. No fluctuation could be detected. Bowels obstinately constipated, and he exhibited all the exhausting effects of violent inflammatory trouble. Examination of the urine showed traces of uratic acid, and the patient exhibited marked evidence of the absorption of a considerable quantity of this drug. I at once applied hot fomentations, gave morphine in liberal doses to relieve the pain, ordered two grains of opium every two hours,

together with all of the stimulants that he could take. An injection was ordered and administered consisting of one ounce each of ferric leaves and opium salts steeped twenty minutes in a quart of hot water; beef tea, milk, and nourishing food as before.

The following morning, the 28th, I found that the bowels had moved freely, but the line of inflammation had extended up to the base of the penis, with consequent increased suffering. The pulse and temperature were the same. Profuse perspiration, with diminished secretion of urine; no point of fluctuation could be detected. On my third visit, which was made on the morning of the 1st of March, all of the symptoms were aggravated. The sweating was exceedingly profuse and exhausting, so much so that the clothing had to be repeatedly changed during the preceding twenty-four hours. Pulse weaker and more thrifty, and 128. Temperature 103.1° and every indication of rapidly decreasing vitality. The scrotum was intensely congested and extremely painful and though it was bared to an unusual degree, still no point of fluctuation could be detected. I decided, however, to make an exploratory incision, being well convinced that there was concealed matter just up somewhere. On making the opening I found a considerable quantity of pure, mucous pus, hidden behind the enormously hypertrophied walls of the scrotum. Extending my incision in both directions, above and below the original opening, I completely evacuated the sac, washing the cavity out thoroughly with a strong solution of phenol sodique. Great relief was experienced at once, and the patient's condition seemed considerably improved, though the weakness and exhaustion were very great. On my second visit of that day I found the temperature 101°, pulse 110, and the excessive sweating subsiding without abatement. The patient was very weak, and it did seem that stimulants were of no avail in keeping up his strength. The pain had left him almost entirely, and his bowels had been moved freely with an injection. I increased the quinine to four grains every three hours, stopped the morphia, gave bicarbonate of potassium for sleeplessness, which was present, increased the stimulants to a table-spoonful every half hour and ordered liberal doses of Munsell's Liquid Food. The most concentrated feeds which could be made in the fluid form were freely given, and twenty drops of the aromatic sulphuric acid was ordered every four hours, together with ten drop doses of aromatic spirits of ammonia every two hours.

At this visit I carefully examined the sac. To the right of the raphe I found a large section of the tissue dead, and all the conditions of a well-defined slough forming. Proctites were continued. The cavity was thoroughly washed out with a strong solution of the phenol solution, perfect quiet enjoined, and strict attention to the details as laid down insisted upon. The next day the slough sepa-



rated and the patient entered upon a long and tedious convalescence. The cut illustrates the condition at the time the slough was removed, showing the exposed testicle peeping through the larger opening. Good nursing, a liberal diet, iron, quinine, and tonics, finally brought him through, though not without hard work. I am indebted to my partner, Dr. E. M. Smith, for valuable assistance in this case.

A CASE OF RETENTION OF THE URINE FROM ENLARGED PROSTATE
AND OCCLUSION OF THE URETHRA FROM FIBROUS AND CHOLESTEROL.
—OPERATION.—RECOVERY.

The successful treatment of an enlarged prostate in advanced age has been a fruitful theme for discussion among surgeons from time immemorial. The literature upon the subject is simply enormous, and the proposed surgical procedures are numerous, and the remedies employed or recommended are equally numerous, and yet to-day we are really as far off from the desired end as we were fifty years ago. The medical journals a few years ago announced that Professor Agnew of Philadelphia had obtained signal success by the use of the fluid extract of ergot in this trouble, and that the drug exercised a powerful influence in diminishing the size of an enlarged prostate gland by capillary and fibre contraction, and the bladder would be more thoroughly evacuated through its inflexion upon the muscular fibres of that organ, causing contraction of that viscus more completely than could be possible under the use of any other known remedy. Quite naturally the treatment was received with great enthusiasm and the world-wide reputation of the Doctor was sufficient to have the remedy more thoroughly tried. At this time I had several cases on hand and I gave the new treatment a most thorough trial and with the most indifferent results, and if the medical journal reports are any index, they would indicate that my experience was almost identical with that of other observers. Since that time I have had my quota of this class of cases as usually fall to the lot of the busy practitioner, and beyond the point of educating my patients in the proper manner of using the catheter, and advising its steady and persistent use, insisting upon a thorough evacuation of the contents of the bladder at each operation, as the best means at my disposal for their relief. I have had to be content with such palliative measures as would diminish irritability and keep the general health in as good condition as possible. The German surgeons have been operating upon a considerable number of cases in the past two years, for the radical cure of this malady, by removing a part or the whole of the gland by an incision through the perineum, but statistics show that no very favorable results have been obtained, and I am inclined that it will have to be considerably modified and a less dangerous operation substituted before it becomes popular with any considerable

able number of conservative surgeons. My distinguished friend, Dr. Robert Newman of New York city, has recently devised a very ingenious instrument for the relief of this condition. It consists of an insulated sound, carrying at its distal extremity a concealed platinum cautery, which, when introduced into the urethra and pressed against the enlarged gland, can be brought in contact with the hypertrophied tissues, and when attached to an electro-cautery battery will burn its way through into the bladder. This instrument, as I said before, is new, and the experience with its use is limited, but Dr. Newman reports excellent success in the cases on which he has used it. A larger number of cases must, however, be reported before a just estimate of its value can be made, though I do think that the removal of the operation is a good one, and I cannot see why, if skillfully performed, it should not prove invaluable in many, if not the majority of cases. I intend to make the effort on the first case which I think is adapted to this mode of treatment.

The following case is so unique in so many particulars that I am constrained to present it to you for your careful consideration, not that it brings forth any new or startling forms of treatment, or devises any new surgical procedure which will apply to every case of enlarged prostate gland, but it may illustrate the fact that by a new procedure complete immunity may be enjoyed from pain, and the remaining days of a well spent life may be passed in comfort and ease. Death, surely as fate, stared this man in the face, and his agony was simply terrible to witness at the time when I operated on him. I never performed an operation in my life where the results were more gratifying than those in this case.

Mr. J——, married American, seventy-seven years old had been afflicted, for twelve years previous to my seeing him first, with what he termed a bladder and kidney trouble. He had been for the most of this time under the care of an ignorant practitioner, who had dosed and dosed him with all the indigenous materia medica, as well as all the remedies he could hear of having a bearing on the case, had been used. From the simple irritability of the bladder and the supposed disease of the kidneys with which his attack commenced, he gradually grew worse until occasional retention would take place and the services of the medical man would be required to relieve the bladder of its contents, which was accomplished through the ignorance of the operator after painful

and prolonged effort. These attacks of retention became more and more frequent, accompanied finally by stranguria, until about three years previous to the operation, when I was called at midnight to see him.

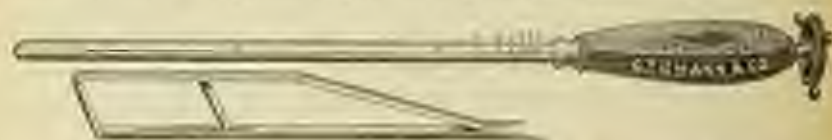
On arriving at the house I found that for twenty-four hours his physician had made many and vain attempts to introduce the catheter and relieve the distention of the bladder. The man was waiting the day in great agony, moaning with pain. He held in his hand a small tin cup into which every few moments he would introduce his penis and make strenuous efforts to relieve himself by passing the water, but all were unsuccessful and every effort he made only tended to increase his sufferings. The perspiration was streaming down his face, and every movement indicated severe pain. His pulse was rapid, the bladder enormously distended, (retention having been complete for about forty hours), swelling nearly if not quite to the umbilicus. The front of his shirt was covered with blood, and everywhere he had laid down was in the same condition, as well as numerous clothes which were soaked in. The meatus was closed with clotted blood, all of which had been caused by the cruel and unscientific efforts of the operator to get into the bladder. The urethra was suppurous and there was no reason for this condition, save ignorance of the proper mode of treating and manipulating such cases. Placing him upon his back, I quickly oiled a soft catheter No. 3 (French scale) and commenced the task of trying to doodge the numerous false passages, pockets, and lobes made in the mucous membrane lining the urethra. I counted no less than five on my trip to the bladder, many of which I got into and bucked out of as gracefully as possible.

I do not think that in a somewhat extensive experience at a general practitioner of medicine I have ever seen a case where there were so many false pockets, though I have had my experience with other butchering cases of a similar character. The urethra was exceedingly sensitive tender, and difficult to manipulate. On entering the bladder, which I soon succeeded in doing, I shortly drew off nearly four quarts of urine, which made the patient feel quite comfortable. The next day I was called to permanently take charge of the case, which I retained to the end. On examining him at this time per rectum I found an enormously enlarged prostate, which was evidently the cause in the case. A

careful examination of the urine failing to show any symptoms of a character which would lead us to suspect any organic disease of the kidneys a conclusion which was verified as long as he lived, I at last succeeded in teaching the patient that he must pass the catheter himself and that it must be done systematically. To teach him the procedure was not so easy a matter, but with a little patience and perseverance this was accomplished, and he became quite expert. Still I would be compelled to pass it myself at varying intervals during the year which followed, and this would be especially so at the times when the hematuria would be present. As for the pockets, some of them healed with firm cicatrices, which formed into strictures, and these gradually contracting incisions were not more complicated, so that, in spite of repeated dilations by sounds at varying intervals, and energetic treatment for the purpose of dilating the urethra, it grew smaller and smaller, and we had to use instruments of a less size, until the canal got so small that we had to use a No. 1 as his daily instrument. Once in about three months he would have an attack of hematuria, at which times he would lose considerable blood. This condition of affairs continued with a fair general health, until April 21, 1885, when I was called suddenly at midnight to see him. I found him suffering from his usual retention. A No. 1 catheter I finally, after a good deal of hard work, succeeded in introducing, but to my surprise I found that the bladder was entirely filled with what seemed to me to be a single clot of blood. Palpation on the outside confirmed the diagnosis, and aside from getting out one or two straggling clots, I was unable to remove any of the contents of the bladder. After long and continued attempts to break down this clot by manipulation with a small sound and the injection and washing out the bladder with hot water, I finally injected with the aid of the aspirator the stricture of Jensen's pepton made into a solution with hot water. After this had been in the veins for one hour, I found the clot dissolved and with a little vigorous washing, got the bladder completely emptied. The great difficulty which I experienced in these manipulations, was that I had to use such small instruments, as the passage was so nearly occluded. This was the last time I was able to get any kind of an instrument into the bladder and by ten o'clock that evening it was entirely closed from within two inches of the meatus to that point. From this time the interesting subject was presenting itself again and again,

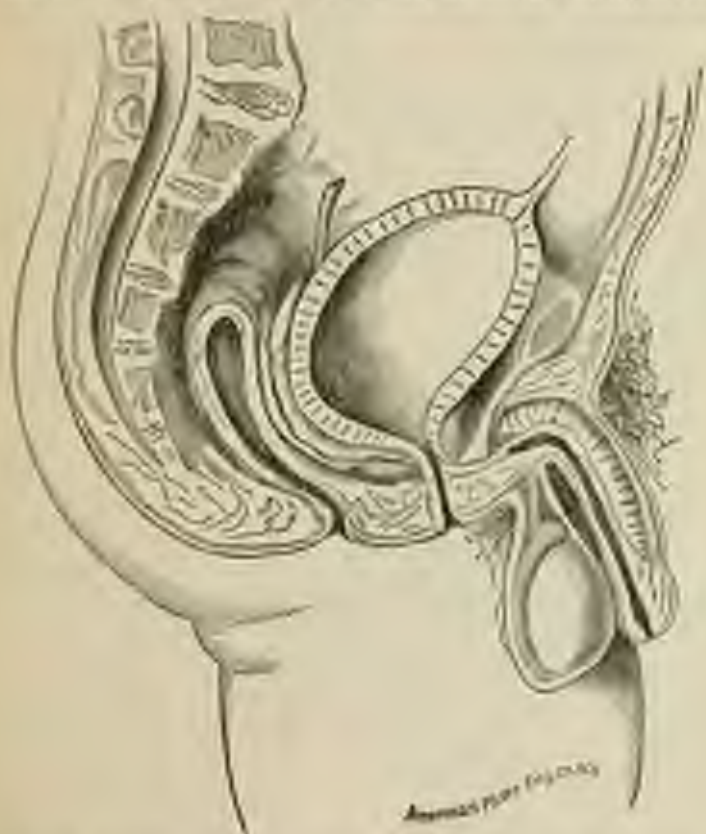
what shall I do for the best interests of my patient and to relieve his sufferings most permanently. In this connection it must be borne in mind that from the time of relieving the bladder of the clot up to the present, his sufferings had steadily increased, and by noon the following day the bladder was fully distended, though vain and repeated efforts to get it through the urethra had been made. Every means in my power were resorted to. Careful prolonged attempts at catheterization with hot and cold sounds, with every instrument of every size from a horse hair up, but with no avail. Hot water in the rectum, ice to the perineum, in fact, every resource at my disposal was successively tried with no result. I then aspirated over the pubes. This state of affairs continued for four days, aspirating twice a day and making many efforts to get into the bladder, with the patient suffering more and more all of the time—such suffering as morphine seemed to be powerless to allay; daily, hourly getting weaker and wishing and longing for death. I suggested perineal section as the only resource left to me. The patient eagerly grasped at the idea, declaring that he would rather die than live another hour in the condition he then was in.

On the 28th of April, with the assistance of my friend, Dr. J. J. Berry of Portsmouth, N. H., he was placed under ether, and without a guide perineal section was made. On reaching the rectal sphincter I introduced the dilator illustrated in the accompanying cut (which though made for the uterus, is a most valuable dilator any where, the name of the inventor I do not know), and commenced to stretch that muscle. This was most thoroughly dilated to its fullest extent. This was performed so that the urine would flow away for a time and give all of the parts a rest, and particularly let the bladder recover its tone. It also was intended to exert a considerable pressure upon the hypertrophied prostate.



At this stage of the operation I made a transverse incision through the urethra, one inch above the superior angle of the wound, and dissecting it up, stitched it to the lips of the wound, virtually transforming the patient from a man into a woman, as far as his

urinary apparatus was concerned. The section shown in the cut fully illustrates this point. Though the operation lasted nearly one hour, the patient bore it remarkably well and rallied from the shock in a very short time. From that period until the change in the



patient's condition was remarkable. Improved appetite; regular bowels; entire cessation of pain; entire withdrawal of the morphia, which had to be administered to allay suffering; in short, general improvement of the health. He rallied at once, and from the date of the operation till the complete healing of the wound, which took about three weeks and a half, he steadily improved. When he desired to make water, he would take a full size female catheter, put it into the artificial vagina, and pass it directly into the bladder without the slightest difficulty, and, though he died some time after

from pneumonia, up to that time he had no trouble whatever with either his bladder or urine in any way. The cut, fig. 2, shows the



FIG. 2.

site of the external incision and site of the incision through the peritoneum. By this operation human life was prolonged, and human suffering relieved.

AN ENORMOUS VENTRAL HERNIA.

Ventral hernia are not at all uncommon, and large ones have been reported from time to time as appearing in the public hospitals of our large cities, but I do not believe that a case as large as this one is frequently met with in private practice.

On the 11th day of April, 1885, I was called by my friend, Dr. J. H. Benedict of Danbury, in consultation (with a view to an operation) to see Mrs. P., aged thirty-nine, American, married, no children, whose health for some time had been very poor, which was attributed in a measure to this immense tumor, though she had

chronic bronchitis for a long time. She was then in bed with an acute attack of that malady, and consequently somewhat debilitated. Her history of the hernia was as follows: About ten years ago while she was wringing out some clothes, and while in the act of



leaning over the tub in order to do so, she felt something give way, and shortly afterwards she noticed a small enlargement, which remained one inch below the umbilicus. It gradually increased in size for about five years, when it seemed that she carried all of the intestines in this artificial cavity. At the time I saw her the

tumor measured ten and one-half inches in its short diameter, and thirteen and three-quarters in its long one. By taxis it could be reduced about two-thirds, and the opening was so large that there was but little, if any, danger of strangulation. We decided to have a truss made for it, which she has since worn. In a recent letter from Dr. Boardman, he says: "It does not trouble her as much as it did when you saw it. Some mornings it is not larger than an orange. Her health is good and she looks much better." The end illustrates her condition better than I can describe it.

AN UNUSUALLY COMPLICATED OVARIOCTOMY.—SECOND OPERATION IN THE SAME PATIENT.—DEATH.

In the series of cases I presented last year was that of a simple cyst of the left ovary in Mrs. N., aged sixty-two, American, married no children, on whom I operated on the 23d of February, 1885, removing a tumor weighing twenty-two pounds, and which resulted in a rapid and complete recovery, the patient getting around the house in about three weeks. At the time of the operation the right ovary was carefully examined and no trace of cystic degeneration was discoverable. Some time during the month of August following, she continued me in reference to pains in the abdominal cavity associated with difficult and painful micturition. Supposing that she was suffering from a simple cystitis which the symptoms as described greatly simulated, I gave her a prescription for that trouble, which in a measure relieved her. In a short time, however, the symptoms returned and increased in intensity until about the middle of September, when I was called to see her again. At this time she called my attention to the site of the incision made at the time of the first operation and informed me that she thought it was beginning to bulge a little more than usual, and surmised that it might be a communicating ventral hernia. At this time I examined her and to my amazement I found that she had a small cyst of the right ovary, and that the symptoms which she had complained of all along were due to pressure and probable irritation. I gave her palliative remedies for the urgent symptoms, and advised that she should wait awhile before the second operation was performed, as her general health was very good. The pressure increased, involving the bladder and rectum, transverse being pressed in both organs. The pain from this cause alone was so good and constant, and as the general health was becoming impaired, I placed

her on a preparatory treatment consisting of careful attention to the skin, bowels, and administration of a liberal diet, and on Monday, the 11th day of January, 1856, with the assistance of my friends, Doctors G. L. Porter of Bridgeport, L. D. Wilcoxson of Newtown, and E. M. Smith, my associate in practice, I operated in the following manner. The following antiseptic precautions were taken. One hour before the performance of the operation, the room was filled with a spray of carbolic acid which was continued during the whole time. The sponges were put in a solution of bichloride 1 to 1,000, and the instruments in a solution of carbolic acid, 1 to 30. The temperature of the room was at about 55°. Previous to the operation the room was thoroughly cleaned, the walls whitewashed with carbolized whitewash, and the floor scrubbed with a solution of carbonic acid, all of the bedding having been washed in a solution of the same. Just before the patient was taken into the operating room her bowels and bladder were evacuated. Twelve hours previous she had taken ten grains of quinine. After the parts were shaved and well scrubbed with soap and water, and washed with a solution of bichloride, an incision about four inches long was made a little to the right of the site of the old incision, and the tissues rapidly divided. On passing the wound through the wound into the abdominal cavity, it was found that extensive adhesions were present. As many of these as possible were broken off with that instrument. The patient was then turned upon her side and the contents of the sac evacuated with the trocar devised by myself. After the patient had been replaced in the recumbent position, the sac was drawn out so far as the abdominal wound allowed and the work of separation was begun. I first found that the sac was so firmly attached to the omentum, that two ligatures were thrown around this viscus and the omentum divided between them close to the attachment. After this was done the transverse colon was found to be firmly united, which was partially loosed. Then the wren adhesions of all were found existing between the bladder and the cyst. On examination it was simply impossible for any one to tell where the bladder commenced and the cyst ended. These attachments were at the base of the bladder, and it was not until the point was passed into the bladder itself that the line of demarcation could be made out.

The separation of the bladder required, under these circumstances, a great deal of time and patience, but it was finally accom-



plished. After this was done a second cyst, a small one, was found lying under the first one. This was emptied by accidentally rupturing the sac, and the contents escaped into the abdominal cavity which was rapidly sponged out. On further examination the sac was found to be firmly adherent to the rectum and the pelvic bones behind. These were broken down, all except a small nodule which was so firmly attached that it was decided to let this remain. A double catgut suture incised ligature of silk was then thrown around the stump and the sac removed. During the whole operation there had been an unusually small quantity of blood lost. All of the bleeding points were stopped with the cautery, the cavity washed out with a 1 to 2,000 solution of bichloride, the opening closed in the usual way and the toilet completed.

The operation lasted one hour and three-quarters. The patient was put in bed, surrounded with hot bottles and a quart of a grain of morphia given hypodermically. Pulse 100; temperature 101°. The patient rallied quickly, and there was little, if any, evidence of shock. A tablespoonful of champagne was given and ice dipped in brandy was allowed ad libitum.

8 P. M.—Pulse 95; temperature 98°. Gave another dose of champagne. Wrote ice constantly. Gave an injection per rectum of two tablespoonfuls of Murdock's Liquid Food.

Midnight.—Pulse 104; temperature 99.2°. From 9 P. M. to 12, several doses of champagne, and one injection of Liquid Food were given.

From midnight till 4 A. M. rested quietly, and only one injection of the Food was given, and one dose of the wine.

From 4 to 8 rested well. Champagne and injection were given at 8 A. M. Pulse 102; temperature 99.4°.

From 8 to 12 she rested quietly, doing most of the time, taking during the interval ice and brandy, champagne in small doses, and an injection of the Food at 8 A. M.; temperature 99.4°; pulse 120.

At 4 P. M., pulse 120; temperature 101°. From 2 P. M. to 5 P. M. patient was very comfortable and rested quietly. At 5 o'clock a teaspoonful of Murdock's Liquid Food was given, and she retained it. In this interval she took three injections of the Food, also considerable ice and brandy. About seven in three hours a hypodermic injection of morphia was given. The pulse was strong and good; does not require so much ice; the thirst not so great; breaks wind freely and is perspiring a little; is cheerful and hopeful. Pulse, at 8 P. M., 116; temperature 99.4°.

The treatment was the same. Her menses came naturally about once in eight hours ever since the operation. She slept well till midnight; a little restless after that; at 5 a. m. the pulse was 128 and temperature 100°. From this time till nine o'clock in the evening she gradually grew weaker, and though every effort was made to keep up the strength and stimulate her, it was all of no avail and she died at nine p. m., the third day after the operation. A careful examination revealed no special tenderness; no tenderness or other evidence of inflammation and no especial elevation of the temperature. She seemed to die of the simple failing of the vital forces to carry on the process of repair. I have never seen an operation of this character, where the adhesions were so numerous, firm, and extensive. The cyst seemed to be fairly glued to all of the contents of the abdominal cavity and to the pelvic tissues surrounding. Sometimes our unsuccessful cases carry a greater lesson than our successful ones, and believing this to be an unusually complicated one, I have reported it for the lessons which it conveys. It shows that a great number of firm adhesions may and do form without any apparent symptoms of inflammation of the peritoneum or the contents of the abdominal cavity; and second, that even the most formidable cases, when the operation consumes considerable time and skill, may recover, as I believe this one would, had she not had two of these operations in the same year. Being of a naturally delicate constitution she could not stand the strain.

I do not believe that so formidable an operation, involving so many organs and followed with absolutely no little or no indication of inflammation, has been frequently recorded. This immunity I attribute to the washing out thoroughly of the abdominal cavity with the bichloride solution. The sufferings of the patient from pressure and pain caused by the cyst, warranted any operation tending toward relief.

I have up to date performed twenty-one ovariotomies, with five deaths. The percentage of deaths may seem large, but it must be remembered that none of these cases have been selected, but have been taken just as they came to me in the ordinary run of practice. The cut accompanying this paper will illustrate beautifully the condition of this poor patient at the time and just previous to the operation.

A CASE OF INTRA-THORACIC SARCOMA.*

By DR. J. W. JEWETT, OF NEW HAVEN.

In March, 1886, I saw W. W., aged seventeen years. Found the young man sitting in a chair, evidently suffering much for want of breath. He gave the following history: Last August, when about to start on an excursion, in the act of putting on his collar, he discovered that his neck had enlarged so much that his fourteen-inch collar did not fit him. This enlargement kept on increasing until a sixteen and a half collar was too small for him. During all this time he felt as well as usual, and continued about his farm duties as formerly. In October, he was attacked by pneumonia, but made a good recovery. From this time, he was subject to more or less severe attacks of dyspnea, accompanied with some cough, especially when exercising slightly. This condition gradually increased until in February, when medical aid was sought, which gave little, if any relief. The diagnosis at that time was consumption.

Physical examination revealed the following facts:

First. A condition of general anæmia.

Second. An anxious expression of countenance, with short and labored breathing, with profuse perspiration upon the slightest exertion, even that of talking, with severe paroxysms of coughing. These attacks of coughing were centered upon making the slightest exertion, but not accompanied by expectoration. The pulse was full, very soft, but regular. The appearance of the neck at first suggested goitre, but upon a more careful examination this did not appear to be feasible. The heart sounds were normal, but feeble and quickened. Percussion revealed a most peculiar condition, viz.: complete dullness over the entire chest, even to the clavicls. Upon the back the area of dullness extended to a line about half an inch above the scapula. These sounds were not modified by change of position. Auscultation revealed bronchial breathing over the scapular region. The left side seemed to be the most diseased. Large knots of varicose veins were visible on the chest at intervals. The mouth and tongue were very dry and red. Constant and aggravating thirst, relieved by a small

*This case occurred in the practice of Dr. C. H. Adams, with whom I made the post mortem examination.

quantity of water, was a prominent symptom. The water, however, caused him much distress. Cold tea seemed to afford him the greatest relief, and was the best borne by the stomach. He had some appetite, and relished and retained fried sausage better than anything else. The bowels were regular. The urine was somewhat clouded, and was passed in considerable quantity. The dyspnea was so great that he was forced to maintain the sitting position, leaning forward with his head and arms resting on the table. His mind was clear, and the family history was good.

The case was diagnosed as one of hydrothorax, with probable tumor in upper part of the chest extending to and causing the enlargement of the neck. Gave arsenic, $\frac{1}{4}$ grain every hour.

On March 10th, his condition seemed somewhat improved. The breathing was somewhat easier, he had been able to assume a more recumbent position, and had thus secured some sleep. The anasarca had diminished, the urine was clearer, and all other symptoms were modified. It was decided to aspirate, and the needle was passed between the seventh and eighth ribs on the left side. We could obtain but a very small quantity of liquid, though the needle was partially withdrawn and tried in a new place, four times. The fluid obtained was bloody and fibrinous. Owing to the exhausted condition of the patient, it was deemed inadvisable to aspirate on the other side. During the next few days he experienced considerable relief. For medicines he had arsenic and cinchona, given at intervals, which seemed to relieve the nervous symptoms, though his strength continued to grow less, and rest was only obtained by sitting with the head resting on the table or the back of a chair.

Death took place on April 29th, from exhaustion.

Made a post-mortem examination assisted by Dr. C. B. Adams, on April 30th, in the presence of Drs. Hall, Roberts, and M. J. Adams.

The chest cavity was the only one opened. Upon making an incision over the sternum, considerable serous fluid was liberated. After dividing the costal cartilages and attempting to raise the sternum, it was found to be so closely adherent as to necessitate the use of the knife to separate it from the mediastinum and pericardium. The pericardium had the appearance and consistency of fibroid tissue. Cutting through, a quantity of serum, probably as much as thirty-two ounces, was removed, and the pericardium was then found to have a thickness at the apex of the heart, of half an

inch, and at the base of two and one-half inches. This growth involved all of the great vessels at the base of the heart, and the pericardium and bronchial tubes as well. It also extended up and filled all the space under the sternum and clavicles, and as high as the cricoid cartilage. The lungs occupied the space immediately anterior to the scapula, and posterior to the abnormal growth. The remainder of the left pleural cavity was completely filled with elongated, serrated bands of organized lymph, holding in the interspaces a sanguineous fluid. On the right side the lung had but two spots of adhesion, and a very much larger quantity of fluid was present. This fluid was not measured, owing to the difficulty involved in its removal, by the lymph bands.

The tumor after removal was found to have the following dimensions: length, thirteen inches; circumference, with cavity filled, fifteen and one-half inches; greatest thickness of pericardial walls, two and one-half inches; width of growth at diaphragm, nine inches; weight of growth, three pounds seven ounces.

Prof. J. K. Thacher of Yale Medical College, kindly made a microscopical examination of the abnormal growth, and found it to be a small, round-celled sarcoma.

The heart was opened, and with the exception of being rather undilated and more than usually fatty, it was found to be in a healthy condition.

A CASE OF LARGE BILIARY CALCULI.

By A. R. HOSKIN, M.D., of VERMONT, CONN.

Read before the Polk County Medical Society at its annual meeting, April, 1885.

I desire to call the attention of the profession to the following symptoms of biliary calculi, which for some and the favorable results following their discharge, are worthy the examination and study of the medical profession at large:

Mrs. L. of South Windsor, Conn., aged sixty-five years, has been under my care and attention at various times during the past three years. I was first called to attend her September 10, 1883. She was then suffering, as I diagnosed, from the passage of biliary calculi. The symptoms at the time were a general discoloration of the skin, severe pains in epigastric and lumbar regions, vomiting, etc. The symptoms soon yielded to remedies, and in a few days she was able to attend to her household duties. No passage of calculi discovered. Again, in April and May of 1884, the same symptoms were developed, but not of a severe nature. The jaundish discoloration of the skin has been a permanent symptom from the first attack, and long before medical aid was summoned.

I was again called to attend her November 17, 1885. She was taken the day previous (Thursday) with the most intense pain in back and side, extending down the thighs, in fact all over the body, as she expressed herself, followed by severe biliary vomiting, not being able to retain the smallest quantity of food on the stomach, skin intensely injected with vls. and all medicine by mouth instantly rejected. I then resorted to hypodermic injections (Stearns's solution of morphia) in order to relieve her intense sufferings giving her from fifteen to twenty minims once or twice a day, as the symptoms called for, with hot compresses to back and loins constantly applied, which in a measure gave temporary relief.

These symptoms continued till the following Tuesday night at eight o'clock (more than five days) when they suddenly ceased. She then fell into a profound sleep, continuing till the next morning. I saw her early, when she expressed herself perfectly relieved of all pain and passing a quiet night. Much tenderness was experienced on attempting to move or bend the body.

There has been no evacuation of the bowels, as no effort had

been made to reach that result. I then gave her a powder of sublimated hydrargyri, containing about twelve grains combined with pulp, &c. At night there had been no movement, when I ordered a strong decoction of *Sol. annua*, &c. a tablespoonful every hour till result followed, giving imperative orders when a movement took place to thoroughly wash the digestion with water and see if any calculi should appear. The first movement brought away the two beautiful specimens which I have the pleasure of presenting for your inspection. Assistance had to be rendered



her to enable them to pass the sphincter. The weight of one is one hundred and fifty-three grains (133), the other is one hundred and forty-three grains (113). The measurements are $1\frac{1}{2}$ inches in length, by $1\frac{1}{2}$ inches in diameter; the other $1\frac{1}{2}$ inches in length, by $1\frac{1}{2}$ inches in diameter.

All movements were thoroughly watched, but no other calculi were discovered. The most wonderful thing about them is the size, and that the duct should so expand and thus allow them to pass without being ruptured. The good lady is now able to attend to her household duties after a somewhat protracted recovery.

I am fully satisfied that more calculi remain, as the yellowish tinge of skin continues, and occasionally severe pains are felt, and the only encouragement I can give her is, that if any more attempt to pass there can be little doubt of their safe delivery. The subsequent treatment has been principally the following powder:

R. Pulv. jalaputilla,	grs. ii.
Sicchi. soda,	3 ii.
M. Ft. chart No. xxx.	

Sig. One powder to be taken in a little water after each meal, the effect of which has been to keep the bowels perfectly regular, and the action upon the liver favorable.

Of all the many cases reported in Dr. Jackson's catalogue of the Warren Museum, Boston, Mass., there is only one specimen that is larger than those are; that was a case which occurred in Dr. Francis Collamore's practice, of Penikese, Mass., in 1862.

The calculus was of a barrel shape, $1\frac{1}{2}$ inch by $1\frac{1}{2}$ inch, light colored, remarkably compact and smooth upon the surface, even a lady over eighty-two years old, who was suddenly attacked with severe pain in the epigastric region, followed by nausea and vomiting. The symptoms continued for six days, but gradually diminished, and on the seventh day the calculus was passed from the bowels, with two or three smaller ones, and with very severe pain. Convalescence rapid.

Thus it will be seen that the above specimen is only $\frac{1}{12}$ of an inch longer, but not as large in diameter, as those presented for your inspection. The specimens have been presented to the Medical Museum of Yale College for safe keeping.

Vermont, Conn., April 4, 1865.

OBITUARIES.

WILLIAM WOOD, M.D., EAST WINDSOR HILL.

By Dr. S. E. BERNARD, WINDSOR LOCKS.

Dr. William Wood, son of the Rev. Luke and Anna (Paine) Wood, was born in Waterbury, Conn., July 7, 1812, and died, at his home in East Windsor Hill, August 3, 1885, in the sixty-fourth year of his age.

His father was a Congregational clergyman, who originated in Somers, Conn., affiliated as pastor of the First Church in Waterbury and in Cheshire, and for a time served several other churches in various parts of the State, finally returning to Somers, where he remained till the close of his life.

Dr. Wood received his early education at the academy at Old Killingworth, now Clinton, Conn., and under the private tutelage of Professors Marsh and Loomis in Vermont. He was qualified for the Senior class at Yale College, which he had hoped to enter, and graduate at the age of seventeen; but failure of his eyes, which he had overtaxed in study, prevented the realization of this hope. He subsequently engaged in teaching, and was principal of the academy in Windsor, assistant teacher in the academy at Westfield, Mass., principal of the high school at Webster, and assistant teacher in the Pavilion School at Hartford, Conn. He read medicine with Dr. Arden Wood of Somers, attended lectures at the Berkshire Medical College at Pittsfield, Mass., and at the University Medical College of New York, graduating from the latter in the spring of 1847. In the autumn of the same year he opened an office, and commenced practice in East Windsor Hill, where he continued in the regular discharge of the duties of his calling till the time of his death.

November 3, 1848, he was married to Mary E. Ellsworth, daughter of the late Deacon Erastus Ellsworth, a prominent citizen of the place and one of the principal founders of the Theological

Institute of East Windsor Hill. Mrs. Wood and the two children, both of this family, Mrs. Elizabeth Sperry, and William R., survive him. Mrs. Dr. Childs of East Hartford and Mrs. F. A. Brown of Hartford, are his sisters. Mr. Luke Wood of Clinton is the only surviving brother.

Dr. Wood was very enthusiastic in the study of natural history, giving especial attention to the subjects of ornithology and oology, and collected a large number of specimens in each of these departments. In particular he had few superiors, and his cabinet of birds and their eggs was widely known and greatly admired, being one of the choicest in the country. He had also a great number of Indian relics, and of old and curious things, collected with much care, from places near and remote, which he kept stored in a room over his office, and which he was pleased to exhibit, and explain to the numerous visitors calling to see his collections. He was an occasional contributor to the *American Naturalist*; wrote a series of twenty-one articles on the "Rapacious Birds of New England," published in the *Hartford Times* in 1861; was honorary member of the Lyceum of Natural History of Williams College, and corresponding member of the Nuttall Ornithological Club of Cambridge, Mass.

Dr. Wood was a man of a very genial and friendly nature, warm and hearty in his greetings, and especially enjoyed meeting his professional brethren in the several medical societies with which he was connected; and would be at much pains and inconvenience rather than be absent on these occasions. He was one of the two or three organizers of the Hartford County North Medical Association, some twenty-eight years ago, of which he was secretary from the time of its organization till his death. This society proved to be the source of much pleasure as well as profit to the physicians of the four or five adjacent towns who constituted its membership. The meetings being quarterly, a frequent opportunity was had for interchange of views on medical topics, and for friendly and social intercourse.

Through its means, also, the fees for professional services, before hardly adequate for a bare support, were brought up to something approaching a reasonable compensation; though still only equal to about half what is paid in Hartford for the same service. Dr. Wood was active in effecting this change. He believed in charging for medical services, and in collecting his bills of such as were able to

199] He took not much patience with that class who, by their vices, have placed themselves almost beyond human sympathy and benevolence, and have become nuisances and burdens upon society. But towards the unfortunate and worthy poor he exercised the broadest charity and benevolence, giving freely and cheerfully of his time and services, regarding, to use his own language, "their gratitude as ample compensation." His field of practice was large, extending far into adjoining towns; and in times of general sickness must have been very laborious, necessitating many long and tiresome rides.

Although he devoted much time to the study of the natural sciences, for which he had great tastes, I think he did not do this to the neglect of his medical reading. He was a man of great industry and activity, and an early riser, and by a systematic use of his time was able to gratify his tastes without neglecting his duties as a physician. In the standard medical literature he kept himself well posted, and also fully abreast of the times in the recent improvements and discoveries in medical science. He was essentially a good and skillful physician, of keen observation, sound in judgment, careful and thorough in the investigation of disease; he seldom erred in diagnosis, or in the selection of remedies best suited to the indications to be fulfilled. He also took a lively interest in his patients, was prompt and faithful in his attendance, kind and gentle in his manner, warm in his sympathies, and steadily earnest in his endeavor to do their good. In this way he earned and won the confidence and esteem of the many families who, in times of peril, were willing to trust their health and dear lives in his hands.

As a citizen he was interested in all that pertained to the best interests of the community in which he lived, was a member of the Congregational Church, and for thirty years holder of its chair in music, being rarely absent unless when compelled by urgent professional duties. He was a most agreeable person to meet at his home or elsewhere. He was a good talker, and had a large fund of anecdotes; could tell a good story, and enjoy a hearty laugh. He was naturally domestic in his tastes, and was most happy in his domestic life.

For many years during the latter portion of his life the doctor had been subject to attacks of sudden and severe pain in the region of the right epigastrium, for the relief of which he usually kept some nar-

affricted at hand, and it was in this manner, while cut with a thread, enjoying his favorite recreation of fishing that his last illness began. Not leaving his mental faculties by him, he returned to his home in great pain and distress, and failing to obtain relief in anything he could do for himself presently called in some of his medical friends. They promptly responded, and did all in their power for his relief but without avail. He sank rapidly, and died in less than three days. The autopsy revealed the presence of gall stones—two of very large size—dilatation and perforation of the duodenum, leading to peritonitis, which caused his death. His sufferings, which were extreme, he bore with the most manly fortitude and patience.

DAVID ATWATER TYLER, M.D., NEW HAVEN.

By STEPHEN G. HUNTER, M.D., NEW HAVEN.

The members of the profession who distinguish themselves by brilliant discoveries, which confer upon mankind great benefits, and make their names widely known, are extremely few compared with the multitude of esteemed, skilled practitioners who give character and tone to the profession, and win for it the respectful homage of every community. The subject of this sketch was one of these, and he illustrated in his life and character many of those sterling qualities which all men admire, and which in the physician endear him to those who are profited by and can appreciate his self-sacrificing ministrations.

Dr. Tyler was born in Northford, November 16, 1818. Endowed by a natural delicacy of constitution for the laborious occupations of the farm, and being strongly inclined to literary pursuits, he learned the trade of a printer as a means of gaining the necessary funds for acquiring a liberal education. He was so far successful in this, that at Bacon Academy at Colchester, he qualified himself to enter the Sophomore class in Yale College. But the intense life of an academic student proved so intolerable to his already feeble health that, by the advice of instructors and friends, he reluctantly abandoned all hope of obtaining a collegiate education, and entered himself as a student of medicine in the office of the late Dr. S. D. Bow.

He was a favorite pupil with Dr. Ives, and received from him many evidences of esteem in unusual facilities for seeing practice, and of treating by himself considerable numbers of patients. He enjoyed also the advantages of didactic lectures and office instruction from the late Dr. Eli Ives, at that time the professor of practical medicine at Yale. Those who know personally or by reputation these gentlemen, father and son, will not be surprised to learn that, while Tyler became, under such instructors, thoroughly trained in all the elements of medical science then taught, he became also an expert and enthusiastic botanist, and acquired an intimate familiarity with our indigenous materia medica; so that he used this class of remedies as well as all others, in after years, with remarkable skill and success. On receiving in 1844 the degree of the doctorate, he read as his inaugural thesis a "*Dissertation on the Helianthemum Canadense et Corymbosum*" (Frost-weed, or Rock-rose), which received from the professors anticipated attention.

The botanical description of these plants corresponded, of course, with that given by the accepted authorities; but in describing at length the medicinal properties and therapeutic value of these two helianthemums (speaking of them as one), he brought out, for the first time placed, an array of facts until then not generally known. Practically, he reintroduced the plant to the profession, not as a substitute for any other remedy, but as entitled to a distinct place by itself, as a corroborant of green power in scrophula, in all its various manifestations, as well as in secondary and tertiary syphilis. He supported his claims to pre-eminence as a remedy in these classes of disease, by full and detailed reports of cases treated with it by himself and others. He sent a quantity of the plants to Dr. Isaac Parrish of Philadelphia, who used them among his patients in Wills' Hospital with very satisfactory results. The first public notice of the frost-weed is to be found in the "*United States Dispensatory*," edition of 1846, in which Dr. Parrish gives concurrent testimony in its favor, and quotes from the dissertation, which by the advice of medical friends, was published in the same year.

Immediately after his graduation, Dr. Tyler began practice in this city, where he continued to reside until compelled by protracted ill health to withdraw himself from active business. He suffered on many occasions from pulmonary hemorrhage, but con-

usual faithfully to attend upon his patients year after year, under a load of painful and depressing disabilities such as I have seldom witnessed. His love for botanical science kept him much in the open air, and to this he attributed his prolonged life and the small measure of health he enjoyed. There have been within the writer's knowledge several instances of persons who consulted him for the relief of symptoms of incipient tuberculosis, and whom he induced to begin the practical study of botany, himself giving them their first lessons in the field. The result in each case was a restoration to a comfortable degree of health while field-work was continued; and in one case of pronounced tuberculosis the gentleman lived for many years, and obtained a degree of usefulness as a botanist, whose name was known abroad.

Dr. Tyler possessed a happy, cheerful temperament. He was endowed with powers of perception, discrimination, and analysis of a high order; and the industry sagacity with which his mind selected and drew forth for critical examination the controlling facts and symptoms of a complicated case was remarkable; and, as might have been predicted of him, he developed early in life as a particularly successful general practitioner. If he made especial study of anything, it was of diseases of the lungs, the kidneys, and the skin. He was a man of profound religious convictions, and as such in his social and professional life, he regarded his actions by the principles of the "Golden Rule," and thus it was that, while his feeble health and modest estimate of himself kept him from such prominence as his great qualities would otherwise have based upon him, he was universally esteemed as one of the most able, upright, and honorable men in the profession.

A wide and varied intelligence combined with a gentle, soothing manner and exquisite tact, rendered him a welcome visitor in every sick-room, and gained for him the confidence and love of all with whom he was brought in contact. He died March 27, 1885.

ASHBEL WOODWARD, M.D., OF FRANKLIN.

By F. C. WOODWARD, M.D.

The death of Ashbel Woodward, M.D.,* of Franklin, Connecticut, December 29, 1885, closed a long, laborious and eminently useful career. Dr. Woodward was born June 26, 1804, in Willington, Conn., the ancestral farm lying on the border line, partly in that town and partly in Ashford. Graduating at the Medical Department of Bowdoin College in May, 1825, he settled two months later in Franklin, where he continued to reside till the end.

As a physician Dr. Woodward was noted for quickness and accuracy of perception. In the dark-room nothing escaped his attention. He was especially successful in desperate cases, detecting with the rapidity of intuition the slightest change in the condition of the patient, and anticipating every emergency.

The estimation in which he was held by medical brethren is shown by the trusts confided to him, and the distinctions conferred upon him. Besides filling many other positions, he was, from 1838 to 1861, president of the Connecticut Medical Society. His annual addresses on "Life," "Medical Ethics," and "An Historical Sketch" of the Society, attracted much attention at the time, and are still remembered. He was also, from its formation an active and deeply interested member of the American Medical Association, and an honorary member of several State societies.

In the early days of the Rebellion he was appointed by Governor Buckingham one of the board to examine surgeons for the volunteer regiments of the State. Into the conflict for the preservation of the Union he threw his feelings and efforts with the able which characterized all his undertakings. As the drain upon the resources of the country became more pronounced, he decided to go to the front himself, and as surgeon of the 16th Union, shared in the siege and capture of Port Hudson. He was then nearly sixty years of age, and his friends attempted to discourage the purpose on the ground that he was too old to bear the privations and hardships of life in camp. Indeed the warnings nearly proved true, for on his return home, after serving out the term of enlistment, he was long and dangerously ill with malarial fever.

*Ashbel Woodward was thirty-fourth in descent from Richard Woodward, who sailed in the ship *Arcturion*, at Ipswich, England, April 18, 1634, and whose name is on the north front pediment of Watkinson, Mass. The Woodward genealogy is given in Dr. Henry Hunt's *History of Watkinson*.

Although driven with professional work, Dr. Woodward in some way found time to accomplish much with the pen. In addition to the addresses already referred to, he contributed numerous papers which are preserved in the "Proceedings" annually published by the Connecticut Medical Society. At the request of the family of General Nathaniel Lyon, he prepared a biography of that early martyr for the Union, whose skill as a soldier was not less conspicuous than his devotion as a patriot. He had previously written a memoir of Colonel Thomas Knorrton, a grand-nephew of General Lyon on the maternal side. Colonel Knorrton commanded the continental stationed behind the rail fence at Hooker Hill, and was killed in battle at Harpers Heights, September 16, 1776. Joel Russell of Albany, in 1853, published a small volume written by Dr. Woodward, upon "Wampan"—a subject to which he had given long attention. As a member of the committee of arrangements, he took an active part in the celebration of the two hundredth anniversary of the settlement of the town of Norwich, September 7 and 8, 1859, and for the book containing the records of that event, furnished the paper on the "Early Physicians of Norwich."

October 14, 1868, the Congregational Church of Franklin celebrated the one hundred and fiftieth anniversary of its organization, when Dr. Woodward delivered the historical address. This was afterwards expanded into a "History of Franklin."

Dr. Woodward had great fondness for local historical and especially for genealogical investigations. His knowledge of the lineages of old New England families was extensive and at instant command. His writings on this class of subjects are to be found in the New England Historical and Genealogical Register, and in other publications.

During life he was a collector of rare books, pamphlets, MSS., Indian relics, and autographs. In accumulating a library he made a specialty of town and county histories, and of autographs of important events.*

*Dr. Woodward was one of the most thorough and reliable of the New England antiquaries. He had accumulated a vast fund of information upon family and local history, particularly of his native State, which he was always ready to communicate to those engaged in continuing these subjects. He took much interest in the New England Historic Genealogical Society, of which he was elected a corresponding member in 1862. He contributed his interest to the register by substantiating the two copies of the work, and contributing many valuable papers for its pages.

From early manhood Dr. Woodward was a member of the Congregational Church of Franklin, and never wearied in efforts to sustain and strengthen it. He was not only a devout but also an unflinching believer in the teachings of Christianity. His last Sunday on earth found him in his accustomed place, officiating as usual.

During his long term of active service Dr. Woodward ministered in sickness to at least six successive generations, and from the beginning to the end commanded the unqualified confidence of his clientele. Often appealed to for counsel and guidance, he was never known to discuss or even mention a matter that came to his knowledge in the sacredness of professional intercourse. Scrupulous in performing the work of each day, thorough in all undertakings, intolerant of sham and pretense, direct in aims and methods, he pursued unswervingly the path marked out by his conceptions of duty. In some respects he seemed to belong more to a former age than to the present. On the intellectual side inheriting from a clerical ancestry the sober theological opinions of early New England, Dr. Woodward himself in beliefs, sympathies, and character, was a marked survival of the Puritans.

His wife (Katharine Birkhead), to whom he was married in May, 1832, with two sons, survive him.

SAMUEL HUTCHINS, M.D., DANIELSONVILLE.

By H. W. HOBBS, M.D., FERNAX.

Samuel Hutchins, M.D., son of Dr. Theophilus Hutchins, was born in Seekonk, Mass., June 5, 1818, received a classical education in Providence, R. I., read medicine with his father, and, also, with Dr. L. Miller of Providence, attended lectures at the Harvard Medical College, and graduated in 1841; commenced practice in Danielsonville in 1842 and continued there, with the exception of the year 1849, which he spent in California, until the time of his death. After his return, in 1856, he married Miss Ellen Weatherland, who is still living, as are also his four daughters. He had one son, who died before his father.

Dr. Hutchins was, at the time of his death, one of the oldest

physicians of Windham county; he was held in high esteem by the medical profession, and at the time of his death was ex-president of the Windham County Medical Society, vice-president of the Connecticut Medical Society, and, also, had been United States examiner for poisons for Windham county.

Dr. Hutchins was a man of marked individuality, strong and decided opinions, and unless a somewhat brusque exterior he carried a heart as tender and sensitive as a woman's. In many homes in this vicinity, where there has been pain and sorrow that no human skill could alleviate, his strong and hopeful sympathy will never be forgotten.

He strictly followed the regular practice, and had no intercourse with anyone in practice who had not a diploma from a regular medical school. He was an enthusiast in his profession, and always responded to regular calls without respect to persons. He had rare good-will and was a safe practitioner. In 1866 he became a member of the Congregational church of Danburyville, of which he was one of the most reliable members. He served several years as a member of the Board of Education, and held many township offices with much credit.

He was a man whom to know was to respect.

Dr. Hutchins departed this life January 16, 1886, of angina pectoris, having been engaged as usual during the early part of the day. His presence will be greatly missed on the streets of Danburyville.

ABRAM MARVIN SLEW, M.D., MIDDLETOWN.

By F. D. ZUCKER, M.D., HARTFORD.

Abram Marvin Slew, late superintendent of the Connecticut Hospital for the Insane located at Middletown, was born in Leroy, Jefferson County, New York, September 18, 1841, being the youngest of a family of seven children. He was the son of Godfrey J. Slew, an industrial citizen and prominent Presbyterian of Jefferson County. He was descended from a German nobleman who emigrated to America about 1710. His mother was descended from Connecticut parents. His preparatory education was gained at the Jefferson County Institute in Watertown, in

which place his father returned when Dr. Shaw was about eleven years of age. When the war broke out he had been studying medicine with Dr. James R. Bates for about one year. He now determined to prosecute his medical studies with the greatest expedition, and attended lectures at Jefferson Medical College, with Prof. W. H. Patonson as his preceptor. Through Dr. Bates, who in 1862 was inspector of prisons, he became assistant physician at the Asylum for Insane Convicts at Auburn, which position he held for one year. This circumstance led to the choice of his specialty. He then returned to his second course of lectures at Philadelphia, and graduated at Jefferson Medical College in 1864.

He was immediately appointed assistant surgeon of the United States Volunteers, and was assigned to duty as post surgeon at Hilton Head, South Carolina. After six months he took charge of the post hospital at Beaufort, where he remained until the close of the war. Returning to Philadelphia, he entered the Blockley Hospital as intern. Here he made the acquaintance of Miss Dix, a lady widely known for her interest in the insane, who became markedly interested in Dr. Shaw, and through whom he was later prominently brought to the notice of the trustees of the Connecticut Hospital for the Insane as eminently fitted to organize and take charge of their institution, which had just been chartered. Leaving Blockley he became assistant physician at the New Jersey State Insane Asylum of which Dr. Randall was superintendent, where he remained until he received the appointment of superintendent to the Connecticut Hospital, during the summer of 1866.

The site originally chosen was southeast of, and much inferior to the present location. By earnest effort he succeeded in gaining for the institution its present site, with its commanding views and picturesque attractiveness, looking out upon the delightfully channelled city of Middletown and the noble Connecticut, spanned by the Air Line railroad bridge, and bustling on its waters numerous steam and sail craft — an ever-changing panorama which furnishes constant mental diversion and leads to them who become the inmates of the rising institution. The distance from the town and railroad station was shortened about a mile, an important practical point gained by the change. He devoted the autumn and winter of 1866-7 to the study of hospital construction, making plans and formulating specifications. The spring of 1867 saw the excavation and the laying of the foundation for what then

secured a very large building, though time has proved its inefficiency. Not only have new wings been added in accordance with the original plan, but two other large hospitals have been constructed within the same enclosure. All has been done under his own personal observation, and mostly in accordance with his desires and suggestions, until it stands to-day as complete as could be desired for the purpose to which it is devoted. The cornerstone was laid June 20, 1862, a day which our society should regard as a well-remembered day for the betterment of Connecticut, the beginning of a new era for the pauper insane, who had previously been left to neglect in the town almshouses, or turned out to the lowest bidder for their keep. I well remember as a lad rising out of the houses provided for this very class, who are now so generously and kindly cared for, as I may say, in truly elegant halls. A building no better than the poorest stables was occupied by a beggarly man, poorly, nay, hardly clad at all, emaciated, beset with filth, his eyes glaring and sunken, his hair and beard unkempt, chained to the side of the building; around on the floor lay the bones of the wret who had to him, stripped of their last fiber. Such was the condition of a pauper insane patient, lawless and incurable, turned out in a private family by the town authorities. Our noble friend came that these might be gathered together and cared for, as was befitting to human beings created in the image of their Maker. Opportunity has greatly to do with the making of the man. It was only in cultivated Athens that Hippocrates, the father of our profession, could have shone. The world before did not afford sufficient effluence. So the position of Dr. Chittenden among us was grand and pregnant with opportunity. I think you all agree with me that the man was thoroughly competent for the occasion.

On the 29th of April, 1863, the first patient was admitted. The capacity of construction was in no little degree due to his energy and capacity. Versatility was one of the doctor's characteristics, and I am scarcely able to say what, of all the things he did, was the best done. The construction of the various buildings; putting them in proper order for the reception of patients; organizing the personnel of the establishment, of itself so important and difficult, to choose those well adapted for that most responsible position where the wretched had to be treated to so great an extent; providing food, warmth, light, and fresh air for so many; proper sur-

tary arrangements; the supply of water for ordinary purposes, and as a safeguard against fire; furnishing employment and exercise for those to whom it would benefit; the landscape gardening which has made the grounds so lovely. Continuously from 1866 to 1886 has the process of growth kept on, and from the lifting of the first spade of earth till his death, so familiar was he with the details of construction and management, that he could give any information desired concerning either the buildings or the patients.

The continued record of his life is the history of the institution. The completeness and symmetry of the whole are a fitting monument to the capacity and faithfulness of its creator. There are comparatively few men who are able to accomplish great results and to command others. Such a happy combination of medical capacity and executive ability is rarely met. His personal contact with both patients and employees brought forth most excellent results. I have never known a patient who did not speak most affectionately of him, and well they might, for he always gave patient and sympathetic attention to all they had to say, and a pleasant and satisfactory reply. His employees also received careful consideration, and were sure of absolute justice at his hands. No one during his twenty years' residence in Middletown can be found who ever knew him to forget his dignity, or give a hasty or angry answer. His self-discipline was simply extraordinary and eminently suited to his work as a student of medicine and physician of the higher order; you all are more or less familiar with the facts. The wonder is, that with so many things to occupy his mind he found time not only to keep thoroughly familiar with the literature of his specialty, but of all medical advance. When the nation had that delicate task to perform—the proper disposal of an Executive assassin—his judgment was called for, together with others eminent in the profession, that humanity might not be disgraced and a grave mistake committed. I can recall no act of his life that has not been done in such a manner that time and subsequent developments have failed to justify his judgment and integrity.

He found time to give to the literature of the profession the results of his observation and experience to some extent. Besides his annual reports to the trustees of the hospital, he wrote the following papers: "History of the Connecticut Hospital for Insane" (1876); "The Insane Colony at Groton" (1879); "What can be done for the Indigent Insane" (1879); "A Glance at the Past

and Present Condition of the Insane" (1856); "Sanitary Arrangements of the New Hospital Buildings at Middletown" (1882); "California as a Health Resort" (1884); "Progress in the Treatment of the Insane" (1885).

In 1878 he visited Europe, and investigated the treatment of the insane at various foreign asylums, and also at the Insane Colony of Glash. He visited California several times, and attended one of his trips to the Sandwich Islands. He was one of the trustees of the Russell Library; a member of the Middletown Scientific Association, frequently reading papers, and taking an active part in the discussions; and an active member of the Middletown Conversational Club, also, of the National Association of Superintendents of Hospitals for the Insane, the American Medical Association, and our own Connecticut Medical Society. He was a man of broad culture, interested in everything that constitutes good society and the better civilization. He was a leading member and one of the executive committee of the South Congregational Church. His religious life was a prominent feature in everything, and his integrity was evident in all his business transactions. He expended millions of public money without a suspicion ever having been suggested that a farthing was misappropriated. Socially he was charming as host or guest, always forgetful of self, eager to please and give happiness to others. This was a marked characteristic, and I desire particularly to mention the direct personal attention which he bestowed upon his patients. He often helped them to get a situation when they had sufficiently recovered, and kept up a continued, kindly interest in their welfare. He sent them little luxuries from his own table, and brought them to town, church, to some entertainment with his own family, and in many ways lifted the light which disease had cast upon them.

On Wednesday, January 27, 1869, he married Miss Elizabeth Collins Palmer, daughter of the Hon. Lewis Palmer of Watertown, New York. She died January 19, 1871, of puerperal fever, after the birth of their second child. On the 12th of June, 1878, he married Miss Clara Lorenza Bradley, only daughter of S. L. Bradley, Esq., of Antwerp, New York, who died September 22, 1879, of diphtheria. Again, October 28, 1884, he married Miss Clara Brown, daughter of Mr. Samuel Brown of Stony Island, who survives her husband, as do a son and daughter by his first wife.

Dr. Shere's death was caused through a fall, received while carrying one of the heavy case-record books down the main staircase of the hospital, which produced spinal concussion, followed by inflammation of the spinal membranes, and continuing from below upwards until it terminated his life, somewhat suddenly, by an apopleptic effusion at the base of the brain, on April 12, 1886. The funeral services occurred on April 15th, at two p. m., at the hospital, and at four at the South Congregational Church in Middletown, under the pastoral charge of his intimate friend the Rev. P. M. Snyder, assisted by the Rev. Messrs. Townsend, Hill, Wilford, and Gardiner. He was buried the following morning at Watertown, New York.

LEONIDAS CURTIS VINAL, M.D., MIDDLETOWN.

By Wm. H. CANNAN, M.D., NEW HAVEN.

Leonidas Curtis Vinal, son of Waldo P. and Almira Rich Vinal, was born in Monroe, Maine, on June 14, 1818. When twelve years of age he went with his father to Madawaska, in the same State, where the latter was employed by the United States Government in establishing schools.

In 1854 he removed to Deep River, Conn., and in 1858 to Middletown. He was educated at the high school there, and in due time engaged in the business of druggist, which he kept up for eighteen years.

In 1877 he entered the medical department of Yale College and, while pursuing his studies, also engaged as apothecary to the New Haven Dispensary, which connection he kept up after his graduation in medicine in 1880. In January, 1881, he was appointed, on the recommendation of those who had observed his fidelity and skill at the dispensary, to the position of deputy superintendent of the Insane Asylum at Cranston, Rhode Island.

In 1882 the disease from which he died first gave rise to symptoms as of an intestinal catarrh, and increased in severity so that, in 1884, he felt obliged to resign his position. He came to Bradford, and placed himself under the care of his friend, Dr. B. Fleischner of New Haven. In March he returned to his old home in Middletown, and while there was under the care of Dr.

Rafael Baker. The symptoms of his disease were quite obscure, and Dr. Nickerson of Meriden, was called in consultation, and gave the opinion that he had malignant disease of the intestine.

He died on June 16, 1884. The autopsy revealed a sarcoma of the mesenteric glands.

Dr. Vinal's life was characterized throughout by a high sense of duty. He was affable to his associates; kind and affectionate to his family and friends; conscientious and skillful to his patients.

He was married in 1874. His wife and four children survive him.

APPENDIX A.

REPORT OF THE COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST.

Your committee have the honor to herewith report, that during the year the following questions were prepared and sent out through the "County Reporters" to every member of the society:

1st. What have been the prevailing types of diseases in your county during the past year.

2d. Has there been any marked increase or decrease of malaria.

3d. What has been your observation respecting the predisposing cause or causes of malaria.

4th. Kindly report any cases of special interest in any department of medicine, that have come under your notice during the year.

To make our reports for this year of special interest and real value, your committee respectfully suggest the importance of bringing this matter to the attention of each member of the society in your county at an early date, in order that each county reporter may make his report to this committee on or before April 1, 1886.

While these replies have not been generally responded to, as we had hoped for in some counties of the State, still there is shown, from what has been received by the committee in the way of replies to the circular issued by them, that there is a large amount of material, which, if carefully gleaned from year to year, would make our annual reports not only of practical value to the members of the society, but a volume of proceedings that would be among the first in medical literature.

During the year your committee have been called upon to lament the decease of Dr. A. M. Shaw, an active and valued member and associate on this committee, a gentleman of high professional

standing and one who was always foremost in all active efforts to promote the present and future usefulness of our society.

The interesting reports made by the county reporters, together with the individual replies from different portions of the State, and the cases of special interest are all herewith submitted for your consideration.

Respectfully,

CHARLES JAMES FOX, M.D.,
WALTER H. HOLMES, M.D.,

Commissioners on Matters of Professional Interest.

HARTFORD COUNTY.

Dr. A. E. ANDREWS, REPORTER.

Dr. Andrews reports:

Collinsville is now (May 21st) being visited by an epidemic of diphtheria and scarlet fever, although it now seems to have passed its height and is rapidly abating. There have been several cases of a malignant type, at least two cases dying within twenty-four hours after a physician was first summoned. In the case of diphtheria there has been a marked tendency to croup, there being four deaths from that complication within as many weeks. This tendency was probably largely due to the prevalence of bronchitis and laryngitis, both of which prevailed to an unusual extent previous to the outbreak of diphtheria. There have been a few cases of pneumonia, but less than the very general prevalence of other lung difficulties would seem to justify. In my own experience, which for the greater part of the past year was confined to Hartford city and suburbs, malaria has been less prevalent than for the previous two years, most of the cases being of the chronic type and not yielding readily to treatment.

Dr. R. Fox of Wetherfield, reports:

We have had no prevailing epidemic here.

Scarlet Fever.—A few cases of a mild type.

Malaria.—More in number than last year; in isolated families.

Whooping Cough.—In a few families; no deaths from this disease.

Medical difficulties about the same as usual, no increase; amenable to judicious treatment.

Diphtheria.—The result of using water vitiated by surface drainage, and cove-pool too near well; the type of a malignant character, confined entirely to one family; six cases—three deaths. The first, 15 months of age, died in twenty-four hours after I was called to visit the family. At this time three other children were prostrated with the disease—one 2½ years, one 14 years, and one 8 years. Two others later on—one 12 years and one 20 years of age.

Those who succumbed to the violence of the disease were of the following ages: 15 months, 8 years, and 12 years.

CASE OF CYSTITIS.

BY A. E. ABBAMS, COLLETSVILLE, CONN.

The following case illustrates, in a very marked degree, the course and termination of acute cystitis passing into the chronic state, and the sequelae of that condition. W. W., *et.* 14, was attacked while living in South Carolina ten years ago, with severe pain in the abdomen, accompanied with chills and fever. A physician was consulted who pronounced it due to worms, and administered antihelminthics. Later, a second physician was called, who at once diagnosed cystitis. Under appropriate treatment, combined with change of residence to the seashore, the child improved so far as the bladder symptoms were concerned, but suffered from reflex paralysis of the left leg during the following summer. In the early part of July, 1876, his parents came north, and he was placed under the care of Dr. G. R. Shepherd, now of Hartford, who has furnished many important notes. The child was often examined for stone in the bladder, but none were detected. Frequent micturition was a constant symptom, but there were intervals of entire freedom from pain in the bladder, which was washed out night and morning through a soft catheter.

During August, immediately following his removal north, there was a marked aggravation of the bladder symptoms. Analyses about this time by Dr. Shepherd show the following results:

July 19, 1876. Passed ten ounces of urine with much pain and effort. Bead, alk., *Sp. gr.* 1007. Heat and nitric acid both gave albumen in considerable quantity, but the microscope showed pus and blood only. August 4th. *Sp. gr.* 1006. August 12th. *Sp. gr.* 1002. Slightly acid. Pus, blood, a few hyaline casts, and one or two yellowish casts; renal epithelium, and granular matter. August 18th. *Sp. gr.* 1005. No casts. Slightly acid. Strings of mucus-pus, bladder epithelium, renal epithelium, and some free fat cells with pus.

In June, 1879, he was seized with an attack of scarlet fever, which confined him to the house some four or five weeks. During this disease a considerable swelling developed over the left kidney, and was eventually followed by a discharge of pus through the bladder.

September 11, 1879, Dr. Shepherd made the following notes:—"Sp. gr. 1005. Acid (slightly so). Heat and nitric acid show albumen to be quite abundant. Under the microscope red blood corpuscles are seen, and also pus corpuscles in abundance. Renal epithelium in a state of partial fatty degeneration and waxy casts are few, also after careful search. I also detected one small blood cast. A few crystals of urate of soda appeared at various points. The stringy deposit in the bottle containing the wash of the bladder appeared to be pus and mucus."

January 15, 1880, Sp. gr. 1005. Neutral. Little albumen, pus, and small quantity of triple phosphates. During the subsequent five years there was little change in the progress of the disease. At longer or shorter intervals the swelling returned over the region of the left kidney, accompanied with pain, and marked tenderness, often extending to the crest of the ilium. The urine was almost invariably alkaline, containing a small quantity of albumen, which was considered due to the presence of pus, the microscope failing to show any casts or renal epithelium. At different times it seemed that the abscess would cease discharging, pus diminished, followed by traces of blood.

During a part of this period he was under the care of Dr. G. E. Roberts.

June 11, 1885, he was again examined by Dr. Shepherd, who reported the following condition:—"Urine alkaline, sp. gr. 1002. Few blood corpuscles, pus in considerable quantity; but no casts. Tenderness over the back seems to extend down over the crest of the ilium, and the muscles are not so firm as upon the right side. Patient passing a large quantity of urine, and losing flesh rapidly."

Dec. 16, 1885, he came under my care. He was passing from four to five pints of alkaline urine daily, sp. gr. 1005-1008. Was able to attend school part of the time, and engage in sports with other boys to some extent. During February the abscess again flared, confining him to the bed for several days. As he seemed to have failed during the past three months, the question of operative interference was suggested to the parents, who kindly consented.

The urine was examined by three physicians separately, who agreed that the right kidney must be nearly intact, and that an operation seemed advisable, if the patient could rally from his present weakness. Under a tonic treatment he seemed to improve for about two weeks, quantity of urine somewhat diminished, about three pints daily. Its character was unchanged.

March 15, 1886, his mother thought he had a slight convulsion in the

morning. He was unconscious for a few moments. I found him with temperature 97°, very restless, and nauseated. Under the influence of emetics and diuretics he rallied somewhat, but his subsequent condition was never such as to justify any operation. The temperature continued below normal, pulse very irregular ranging from 55-98. He complained of great uneasiness over the region of the heart, and frequent nausea.

Died, April 22d, 8.30 p.m. Autopsy, seventeen hours after death. Body much emaciated. Lungs and liver normal. Walls of stomach somewhat thickened. Heart slightly hypertrophied. Bladder contracted so that cavity apparently will not hold more than three ounces. Walls little more than one-half inch in thickness. Right kidney cirrhotic, and contains only a trace of kidney tissue proper. Pelvis of left kidney occupied by abscess extending into the substance of the kidney. Cirrhotic changes in remainder of kidney well advanced. Ureters dilated and thickened. Left kidney must have been carrying on the secretion of urine almost entirely alone. I regret that I cannot give the weight of the kidneys, but the specimens are now in the hands of Dr. W. W. Knight, Pathologist to the Hartford Hospital, from whom I have not yet received a report. It seems difficult to understand how a patient with so advanced kidney changes could lead a comparatively active life without any manifestations of uræmic symptoms until within a few weeks of death. The low specific gravity of the urine was partly attributed to the flow of serum from the cavity of the abscess, and consequently a more hopeful view of the condition of the right kidney was entertained than the autopsy justified.

PTOPNEUMOTHORAX—OPERATION—DRAINAGE—RECOVERY.

BY DR. J. A. STILES, HARTFORD.

C. S., aged three. Was taken sick on December 14, 1885, with what proved to be a well-marked pneumonia of the right lung, the left being somewhat involved. The exsudation was yellow, the fever continuing more or less for four weeks. His mother was confined on the 11th of January, and consequently he did not receive the usual careful attention, and was allowed to walk about the house for a week. I saw him once a week and continued his treatment without interruption. On the 11th of February he had a well-marked chill and I was sent for by telephone. Failing to receive the message, Dr. Froelich was called in and treated the case for a week. When I saw him again on the 26th with Dr. Froelich, we found the right pleura filled with fluid, but decided not to aspirate, as the respiration was not seriously embarrassed.

The respirations ranged from 22 to 34—pulse 108 to 140, and the temperature from normal to 102, which latter height it reached on the 22th of February. The treatment at this time consisted of 8j. Perri. Iodid., Cod Liver Oil, and also Quinine whenever the temperature rose much above normal. There has been a marked bulging of the right side for a week, but as the respiration was not oppressive, we delayed operative interference waiting for marked pointing.

On March 6th, with the assistance of Dr. Froelich I introduced a large sized aspirator needle in the fifth intercostal space, and drew off about eighteen ounces of odorless pus, which was followed by a little blood. The character and frequency of the respirations were not much changed by the operation, but the patient seemed relieved somewhat. After withdrawing the aspirator needle, the mouth of the puncture was seen to move in and out with the respiratory efforts, showing that the opening communicated with the bronchus. After two days, the temperature again rose to 104° with rapid pulse and respiration, and marked bulging. Five days after the first operation, the needle was again introduced, and twenty ounces of fetid pus withdrawn. A soft rubber catheter was now introduced as a drainage tube—the end being quilt—and fastened by plaster to the chest wall. The cavity was washed out with a solution of bichloride of mercury, 1-5000, using the aspirator for this purpose, the washing was repeated in two days. After the second washing the discharge was odorless, and the child rapidly gained flesh and strength. After the first aspiration it seemed that the child would die. After the second followed by the use of the bichloride wash, it rapidly improved.

April 13th, air still passes through opening when child cries or coughs. Discharges about a teaspoonful of yellow pus during the day. Bowels regular, pulse 100, respiration 44, temperature normal. Skins well, gaining in flesh, and begins to walk about a little. Some dullness in apex of right lung, otherwise lungs seem normal.

NEW HAVEN COUNTY.

MAX MILLBORN, Reporter.

Dr. W. H. Zink reports as follows:

1. The prevailing types of disease in this vicinity during the past year have been typho-malarial fevers, true malarial fevers, typhoid fevers, gastric fevers, proctitis, acute rheumatism, and spinal meningitis.

2. There has not been as much malaria as usual in this vicinity.

3. The causes of malaria are, in my opinion, first, ignorance of sanitary measures on the part of the general public; second, stagnant pools and swamps; third, sudden changes of temperature.

4. There was more typhoid fever in this vicinity during the past year than in previous years. In one boarding-house of laborers there were four cases, all of which recovered; one of these, after recovery, changed his quarters to another boarding-house, and shortly afterward one of the boarders of this last mentioned house was attacked with a very severe type of typhoid fever, of which he died; a few days after his death another of the boarders was attacked with the same fever, and he also died. Both of these men had always enjoyed good health previously to the last disease, and account of strong and robust constitutions. The next case that occurred in this house was the little girl of one of the tenants, for the house was used both as apartments for families and as a boarding-house for laborers, and as a general rule there resided in this house from twenty-five to thirty human beings. The little girl spoken of also recovered. The next patient was one of the boarders, who was taken to his home in Clinton, and, as I am informed, recovered, after a long illness. The next case in the same house was one of the servant girls, who at once started for her mother's residence, and there was under better sanitary conditions, and recovered rapidly.

I informed the tenants and boarders that it was my opinion that the sanitary conditions were very bad, and advised them to find better quarters, which many of them did. Among other things I informed them that the water was unfit for use, and the owner thought that I had injured him without cause, and for that reason he sent some of the water to some chemist in New Haven, who condemned the water as entirely unfit for use. It could surely not be otherwise, as the outhouse and a pigsty were in the vicinity of the well, and the soil was in a most favorable condition, and the sewage from so many persons was thrown out all round this well.

About six weeks prior to the last named five cases the mother of the little girl spoken of was sick with typhoid fever, in the same house, but recovered after four weeks' sickness.

The question arises, did the young man bring the germs into that house, or did it occur from the general bad condition, and the drinking water?

Dr. E. D. Swift of Hamden, Feb. 26, 1884, reports:

1. That the diseases treated by me have largely been of the miasmatic type; nearly every case of acute disease has required the early use of some kind of supporting medication.

2. Well-developed malarial cases have not, I think, been so numerous as during 1884, though they are now, at times, frequently met.

3. Exhaustion, from any and all causes, is a predisposing cause.

There have been many cases of pharyngitis, some with third ecid, with or without ulceration of lateral nascent membrane. Others of scarlet fever, also with or without such lesions. In ulcerated cases I have often found white or grayish-white exudation, without tendency to spread, of varying size and shape, some round, over one tonsil, of perhaps one-half inch diameter, while over the opposite tonsil there were some half-dozen or more small white points of perhaps one-fortieth to one-thirtieth of an inch in diameter, isolated, but occupying the same relative position; others ovoid in shape. Nearly all were accompanied with some fever for from one to four or five days.

There have also been an unusual number of tonsillitis; some probably aborted by the free administration of calomel as a purgative, followed by Tr. Guaiac administered, in 5i. doses with rectalage.

I would report the case of P. L., aged twenty-three, good habits, except a fondness for drinking at night, thereby depriving him of necessary rest; attacked at night, January 11, 1886, with rigor, followed by fever, sweating, and apparent intermission of disease, and again on the Wednesday and Friday evenings following, with apparently a repetition of the same fever. Fearing another attack on Sabbath evening, he called me in the morning of January 14th. Learning the above facts, I concluded his malady was purely intermittent; ordered a cathartic (Comp. Cath. pills U. S.), a fifteen grain dose of quinine Sulph. at 12 M., and repeat at 4 P. M.; did not visit him on Monday; but on Tuesday, 8:30 A. M., I found his temperature 101½, pulse about 100. Desirous of being absent a few days I requested a neighboring physician to attend until my return on Saturday. I then found his abdomen tympanitic, some tenderness in right iliac region, some dry or dry small red spots on lower thorax, slight diarrhea, and marked delirium. The case terminated fatally on the following Thursday, and I report it that other physicians may thoroughly investigate all their cases of supposed pure intermittent fever.

I would also report the case of Mrs. B., aged about forty-two years, the mother of eight children, the youngest four years old, whom I saw one week ago, suffering from complete retroversion of uterus, which was much enlarged and firmly imbedded within the pelvis, so as to be nearly

lithonvalde; abdomen full, tympanitic, and tender; pulse 100, temperature 100, tongue considerably loaded with brownish fur. My treatment has consisted in keeping the bladder empty, as well as the bowels; fortifications of hop-iron and alcohol 2 to 1, and the foot of her bed raised eleven inches higher than the head; to-day her uterus has nearly resumed its natural position. I omitted to mention what I believe was an important part of my treatment, namely, Fl. Ext. Ergotæ, thirty drops every six hours, as also three grains quinine three times a day.

Dr. Chamberlin of Cheshire, reports:

In reply to circular on Matters of Professional Interest for preceding year, I would state:

1. There has been no epidemic; last summer there was a slight increase in cases of diarrheal disease, and in their recovery.
2. Marked decrease in malarial diseases.
3. Have found debility from any cause very apt to be followed by ague or malarial symptoms.
4. No cases of sufficient interest to report; saw once in consultation a case of decidedly nervous symptoms in a young man, in many respects reminding me of "hysteria in the male." Recovery complete, as informed by attending physician. A short time ago I was called to see a young colored woman after her unexpected death. On inquiry it appeared to be a death from failure of the heart, after an attack of dyspnoea, which had not been especially severe. No physician had seen the case. No post-mortem.

Dr. Burnitt of Southbury, reports:

No prevailing types of diseases, and no marked change in amount of malaria.

NEW LONDON COUNTY.

Dr. F. J. BUCKWOLD, REPORTER.

Dr. Paddock of Norwich, writes of the non-prevalence of malaria in that city, and an *absence* of typhoid fever over that of the previous year. Dr. La Pierre writes to the same effect from Jewett City, and comments on the fact that the conditions were those supposed to be favorable for malaria the streets being torn up and men working all day in the deep trenches. In New London, we had a small-pox scare at one time, as two cases were dis-

covered in a tenement house. They were isolated, and the disease was not communicated. There has been a notable falling off in the number of cases of malaria and typhoid fever, due probably to the very energetic actions of our health committee. I hope in the future to be able to get a better response from our physicians, and submit a better report.

FAIRFIELD COUNTY.

DR. J. W. WRIGHT, REPORTER.

To C. J. Fox, M.D.,

Chairman of Committee on Matters of Professional Interest.

In Bridgeport, answers to questions first, regarding the prevailing types of diseases, have elicited the following: First, our old friend (or enemy), malaria, diarrhea and a few scattered cases of dysentery and typhoid, prevailed during the summer. Up to nearly the close of 1885, there had been no marked epidemic, not only during the year, but for several years. The general tone of the city was a healthful one. In fact, with an increase of deaths, and the decrease of disease, bankruptcy has almost started some of us in the face. But we who have the misfortune of living on the misfortunes of others, have lately had plenty to do. Diphtheria, which had appeared at various places and times sporadically, began to rage with greater violence during the fall and winter. To the city clerk from March, 1885, to March, 1886, there has been reported one hundred and thirty-one cases, and sixty-eight deaths. I have reason to believe, however, that all were not reported.

In West Stratford, which is contiguous to East Bridgeport, there have been a large number of cases. There being no bureau of vital statistics there, these cases are unreported. Many of these cases have been malignant, while others have been of a catarrhal form, and light. The source of the disease was in the main by contagion, though no cases could be discovered for many. In some families all the children contracted the disease, in others, only one would be visited. During the winter, and especially since January, pneumonia has prevailed quite extensively, particularly among children. One physician has reported thirty cases.

within the last two months. Diarrhœal troubles generally have increased, and consumption has claimed many victims.

Dr. Coggeswell reports from Stratford the prevalence of pneumonia, bronchitis, and general throat troubles. No special type is reported from other places.

In reply to the second question, all the physicians have noticed a decided decrease in the number of malarial cases per *an*, but find that it is in competition with other diseases. One doctor reports, and I have likewise observed the same, that during the past month, the number of malarial cases has increased. Another doctor reports he is accustomed to give quinine in obstetrical cases. It seems to be the general opinion, that while the acute malarial diseases have decreased, there has been an increase in chronic malarial symptoms and complications.

Respecting the causes of malaria in the third question, the answers are generally like those given to *contumina*: "Give it up."

Dr. Wordin says: "A great predisposing cause of malaria is fatigue. Exposure to dampness is a direct cause." Dr. Porter says: "Defective sewerage." Drs. May and Young think it may be partly due to "impure water supply." Dr. Coggeswell of Stratford, gives as a cause, "general debility, low ground, and stagnant water." Dr. Hamblein says: "Anything causing a debilitated condition of the system."

Question four: Dr. May reports the birth of triplets, two boys and one girl, weighing together sixteen pounds. All died at the end of the fifth week.

Dr. Holmes reports the removal of an ovarian tumor weighing forty pounds, on June 17, 1885. Tumor was subcapsular, with many adhesions. The other ovary was removed, as it was found in a diseased condition. The wound was closed with silver sutures, and was dressed antiseptically. Patient made complete recovery.

ACUTE NEURALGIA: CAUSE, MALARIA.

BY ROBERT LATIMER, M.D.

Mr. F. H., aged 38, married, has always been in good health. Was called to see him on the evening of March 12, 1886. Found him febrile and debilitated by a paroxysm of pain occurring every other afternoon in the lumbar region of the right side. The pains were sharp, acute, cutting, lasting several hours.

Previous history. About three weeks before this, being engaged as a book-keeper in the city of Buffalo, N. Y., the pain first came suddenly, in the middle of the night. Getting up to shut a window, an intense pain suddenly seized him just as the window was shut, and he fainted on the spot. The pain disappeared after about an hour, and the next morning he went to work. One week from that time, almost to the hour, another similar attack came, sudden and sharp, but lasting about three hours. Two physicians who were summoned, thought he was dying. It took him two days to recover. After this time the attacks disappeared, and he seemed to be perfectly well. In little less than a week (five days) he had a severe attack in the daytime while at work, and after drinking cold water. This was not so severe as the others, but lasted as long—about three hours. Two days after this, working again a separate period, while on his way home on the cars, another quite severe attack occurred, lasting four or five hours.

Subsequent history. The next attack came at eight o'clock on the night of the thirtieth, twenty-four hours after my first visit, at which time I found him in the condition described. My treatment was Citrate of Lithia and Clochamilla, gr. xvi, daily, in doses of gr. iv each. The next day, the fourteenth, at the same hour, eight o'clock, occurred another attack of intense pain in the same place, and which lasted some hours. The Clochamilla was increased to gr. xxvi, daily, and the pain was postponed until forty-eight hours, the attack at that time lasting five or six hours. The treatment was changed to Warburg's Tincture, \mathcal{f} ss doses every three hours, night and day, for twenty-four hours. This soon affected the bowels so that I returned to the Clochamilla, gr. xxvi, in the twenty-four hours. After forty-eight hours, the attack resumed as severe as the others.

As the disease had up to this time not yielded to the treatment given, I called Dr. G. L. Porter in consultation, who suggested stopping the Clochamilla, and using Arsenious Acid, gr. $\frac{1}{2}$, every six hours, as the other remedies had been well and thoroughly tried. The interval was again shortened to twenty-four hours in time, but in severity was less than the others. The attack was continued twenty-four hours, but before this period had passed, viz.: at four p.m., the most severe paroxysm of all began. Morphine, gr. $\frac{1}{2}$, every half hour was not sufficient to quiet the patient, and chloroform in addition had to be given almost constantly from the time of the attack until five in the evening, a period of more than twelve hours. From that time I adopted a treatment of Quin. Sulph., gr. x, every six hours, night and day, for five or six days. There was no return of paroxysms, but the patient was left with weakness, great prostration, abdominal tenderness, and repugnance of the stomach. At no time was there any rise of temperature as tested frequently with a Bix's thermometer. The urine was chemically

examined just before the prolonged attack, and was found normal in all respects. After the quinine treatment of six days, pro-quinia pills were given, five daily, with a vegetable basis. This was continued for five days, and on the 7th of April he was well enough to ride out.

INJURY INVOLVING KNEE JOINT.—ANTISEPTIC TREATMENT.—COMPLETE RECOVERY.

BY ROBERT LUTHER, M.D.

John Mayhew, aged about 16, with no tendency to inherited disease, and having had no previous sickness, on the second day of January last was struck in the knee by an ax in the hands of a playmate. The instrument had just been sharpened, and its edge was like a razor's. A wound was made directly into the joint, the skin opening in just above the edge of the patella, and between the condyles of the femur. The bones were uninjured, but the ligamentum patellæ was entirely severed. The cavity thus made was found filled with blood-clots, which, when swept out with the finger, disclosed the shining vessels of the femur and tibia. The patient was first seen about an hour after the injury. The opening in the skin was about three inches in length, and the synovial fluid was entirely expelled from the joint. Knowing the tendency of this joint to inflame and produce ankylosis, or necessitate amputation, I gave "stiff knee" as the best possible prognosis.

The ends of the bones were carefully dried with a cloth, the parts placed accurately in apposition, and held by four stitches of catgut. Adhesive strips were then applied so as to remove all strain from the stitches and seal the wound. A roller bandage completed the dressing for the time. The patient was put to bed, and ordered kept quiet, a dose of Rochelle salts being the only medication. On the following day, twenty-four hours from the time of the accident, the patient was seen by Drs. Martin, Godfrey, and myself. Constitutional disturbance was entirely wanting. At no time did the temperature rise above 100° Fahr., nor was there any pain. The conditions were so favorable, that disturbance seemed inadvisable. The roller bandage was, however, removed, the plaster and leg were bathed with a carbolic solution, and gauze made antiseptic with bichloride of mercury was applied on the knee both above and below. The leg from the toes to the hip was then made firm and immovable with a salicin of soda bandage, the patient ordered to remain in bed and give the limb absolute rest. This treatment of absolute rest was maintained for a period of three weeks. He was visited every day for a week from the time of the injury.

At the expiration of the three weeks, the dressings were renewed in the presence of Drs. Martin, Godfrey, and Werdin. The wound was

found to be perfectly healed, but was not deemed strong enough for any manipulation. Fresh plasters and bandages over the knee were therefore applied. At the close of the fourth week all dressings were removed, the sutures having been entirely absorbed; for the first time passive motion was gently made, and the limb permitted to be used. Walking produced faintness, but no pain. From that time improvement in walking continued, and in the close of the fifth week, when I saw him at my office, there was some stiffness of the knee, which came from fear of using rather than any permanent impairment of motion. At the end of the sixth week he again visited me, when he was able to walk without any pain, limping, or impairment of gait. The cure was perfect and complete, a result somewhat surprising. It is attributed to the antiseptic dressing and the absolute rest.

WINDHAM COUNTY.

DR. J. B. KIST, REPORTER.

Dr. W. H. Judson of Waregen, sends the following:

1st. Prevailing types of diseases? Typhoids, epidemic of measles, and tetanitis.

2d. Malaria? I have seen no case this year except imported ones from the Connecticut valley.

3d. I have observed no cases.

4th. As it is my fortune to have seen a case of severe poisoning from iodide of potassium, will here state symptoms:

Mr. A. K. was met by a physician who prescribed iodide of potassium for his lameness. Patient went home, took a dose at night, one in morning. About eight o'clock, an hour after taking the second dose, I was called to see him. He was in a high fever, mucous membranes swelled even to his eyes, which were closed, his tongue filled his mouth so that he could not speak. From these symptoms, and the fear they excited in the man, he was suffering intensely. The amount taken was found on investigation to be only fourteen grains, in two doses ten hours apart. These symptoms continued gradually abating until evening, and the next day he was around as usual. There was no treatment except soothing applications.

In regard to the epidemic of measles in the spring I will give a few figures. There are about 400 children in the village proper between one and twelve years old; of these, 175 had measles, and of the 175 about fifteen died from brain or nervous symptoms, about the proportion quoted in books.

LITCHFIELD COUNTY.

Dr. J. H. NORTH, REPORTER.

Dr. J. H. North of Goshen, writes:

1st. There is no prevailing type of disease, nor has there been during the past year.

2d. Epidemics? None.

3d. Typhoid fever, so far as we have been able to collect data, is rather less than usual throughout the county; another evidence, we think, of the beneficial effect of the operations of the State Board of Health, through the profession, on the public health and sanitary conditions.

While there is no open or marked inharmony in the Litchfield County Medical Society, there still seems to be a lack of that perfect confidence in each other that is so necessary a factor in the success of any association; and such lack of fraternal feeling, together with our hilly roads and difficult communication, have caused either a bare quorum or a want of aid; therefore, our quarterly meetings have been discontinued, which seems to us not for the best, as we read in that grand book of ancient classics, "As iron sharpeneth iron, so the countenance of a man sharpeneth that of his friend," we can ill afford to dispense with the good-fellowship and possible progress that might result from a free interchange of opinion in frequent enthusiastic meetings.

We should be more free to relate to each other our professional troubles and triumphs, also to caution and counsel one another for the advance of the science and well-being of humanity.

MIDDLESEX COUNTY.

R. W. MATTHEWSON, M.D., REPORTER.

Dr. Matthewson reports:

In the towns of Durham and Middlefield, where much of my business is, I do not find anything special to report. Malaria is diagnosed forms still prevails about as usual. Scarlet fever has prevailed; two fatal cases in Middlefield. Diphtheria in a mild form, with two fatal cases in Durham, which I consider was owing

more to lack of care and treatment, than to any malignancy in the disease. I was subsequently called to see cases in the family, and found that it yielded to the modern treatment by iron and quinine, alternately every hour, followed by spraying with carbolic acid, etc.

I have a peculiar case of malignant disease to report, which I related to the society meeting yesterday, and showed pathological specimens, which I will get ready by the time of the convention. I supposed it to be Hodgkin's disease, but all the specimens examined by the microscope proved to be carcinomatous. There were hundreds of enlarged external lymphatics which by mistake were not examined. (See given below.)

Dr. Hazen of Haldam, reports less sickness than usual. Malarial fevers were common in spring months.

Dr. Turner of Chester, says: "Year 1895 exceptionally healthy. Malaria about the same as last year. Typhoid almost unknown."

Dr. Balwell of Deep River, reports: "About usual amount and variety of sickness, malarial troubles taking the lead, but gradually diminishing."

Dr. Grantine of Saybrook, says: "The past year has been characterized by an almost entire absence of the zymotic diseases here. Malaria is slowly decreasing, says as a complication; for instance, puerperal women are prone to develop malarial troubles, often having a regular chill on alternate days, etc." This puerperal malarial condition he treats with large doses of quinine, 30 grains in ten hours. Elderly persons with bronchitis also have malarial chills which stimulate pneumonia.

Dr. Bell of Middletown, reports no epidemics, rather less malaria, and thinks bilious temperaments more affected by malaria.

REPORT OF A CASE HAVING ALL THE SYMPTOMS OF HODGKINS' DISEASE.

BY E. W. MATTHEWSON, D.D.R.M.

The Adenx of Testes, malignant Lymphoma of Belroth, Lymphosarcoma of Virchow, or Lymphatic Anemia of Wilks.

A disease which seems to be rare in this State, as I am unable to find a death reported by the State board, although it is uniformly fatal. In New York city it is not uncommon.

Mrs. S. of Durham, aged 33. One child thirteen years old, of a healthy family, excellent health previously, became subject to gastric pains occurring occasionally for a year, and these gave place to attacks of arthritis, occurring every evening for another year, at nine o'clock, whether in bed or not. Not relieved by quinine or arsenic. These were followed by pains in the hip resembling sciatica. This continued for about two weeks, when enlargement of the cervical glands on the left side soon followed by enlargement or explosion, as it is termed, by groups of inguinal glands of the same side; the same glands on the right side became affected. After this the axillary glands, and then salivary glands in other places. Severe pains accompanied the enlargement of each group for some days. Some of the glands were nearly the size of a hen's egg, and continued about the same size for a year, or until death.

There was no tenderness or discoloration; glands were not adherent, coming freely under the skin. Pulse and temperature, for the first six months, a little above a hundred, when both came down to about natural, where the pulse remained. The temperature for the last few weeks went down gradually to ninety-two, where it remained several days before death. The last six months she suffered excruciating pains in the regions where the internal tumours were formed, which could only be relieved by hypodermics of morphia every few hours.

Anæmia was very marked the last few months, with œdema of the lower limbs several months before death.

Pewee's Solution was tried at several periods in doses from five to fifteen minims three times a day, and continued as long as the system could tolerate, without benefit.

Autopsy by Dr. Keister of the Insane Hospital at Middlebury:

Body emaciated. Abdomen very large. Total absence of tiger mottles. In neck several enlarged and hard glands felt in anterior and posterior chain; also in axilla, at bend of elbow, in groin, and other localities. Physical examination revealing presence of fluid in abdominal cavity (dullness, wave, etc.), a small incision was made, and twenty pounds of straw-colored fluid was removed, containing albumen. After removal of fluid, incision was prolonged from upper edge of sternum to pubis. Inspection showed the liver reaching in front to lower edge of second rib; and right lung compressed. Stomach distended with gas; in normal position; four or five enlarged mesenteric glands, and marked anæmia of all the viscera. The right lung had no adhesions and was perfectly healthy. Left lung had slight adhesions at apex. In the upper lobe in front, near median line, was a large, whitish nodule, size of small orange. The section was very hard. Lower lobe congested. Heart was small, pale, empty. No valvular lesions. Spleen

was slightly enlarged, and very soft. The kidneys were large, and pale, but in fair working order. The suprarenal capsules were very large, and friable. Liver was normal in size; on under surface of right lobe was a hard nodule, size of a horse chestnut, smooth capsule. Behind liver and stomach, over dorsal vertebrae, to which it was attached by loose areolar tissue, was a large tumor, which involved stomach (pylorus) and diaphragm by adhesion, and was connected by appendices with the nodule in liver. The parts were so adherent that minute dissection was impracticable. The tumor, as also nodule in liver, was very hard and white, and in its gross character resembled scirrhos. Gall bladder was distended and full, the duct was involved in adhesions of tumor. Ovaries and uterus normal. Head not examined.

Microscopical Examination by Dr. W. W. Knight of Hartford.

Microscopical examination shows the specimens to be carcinoma scirrhos. The tumor, at least the part examined, has reached the stage of atrophy in its growth as all scirrhous cancers do. The growth in the liver shows a more typical cancer structure; an alveolar arrangement of fibrous tissue enclosing nests of epithelial cells. The tumor from the lung is wholly made up of fibrous tissue fully developed. So far as the microscope is concerned it cannot show whether the growth is an atrophied cancer or an old cicatrix. From its gross appearances as they show in the preserved specimen I should be doubtful. The enlarged glands were probably of a carcinomatous nature.

Tremblay gives one case under the name of Schistos, where the internal tumors were white and considered cancerous, although it was not stated that it was proven by microscopic examination. Tremblay says: "In only three of my eleven cases I observed hypertrophy of the liver and spleen." Unfortunately the specimens of the external tumors were lost in transportation, and not examined by the microscope.

TOLLAND COUNTY.

S. G. ROLAY, M.D. — ROXBURY, NEWTON.

In my own locality and vicinity there have been during the year no unusual experiences in medicine or surgery, but an ordinary routine of surgery and surgical cases for treatment of all kinds of livers, skin diseases, coughs, and catarrhs, a sprinkling of malaria, accidents, accidental deaths, suicides, and murder, calling for more or less of medical investigation and testimony, of research on hygienic topics, etc., etc.

There has been no prevailing epidemic or contagion, but mostly such diseases as measles, whooping cough, and scarlatina, and diphtheria and erysipelas have visited us in a sporadic way. One little scare of small pox, which resulted in perhaps two hundred vaccinations for knee pox, did private work, but the scare did not continue long enough to frighten the people into general vaccination, so that there are now unquestionably remaining in this community several hundred persons who are unprotected from small pox. Our experience is that there is a growing prejudice against vaccination among the people at large. It is a common remark, "I would almost rather risk the danger of having small pox than risk vaccination—it leaves so many persons diseased." This, like other prejudices, is the result of ignorance, and perhaps the teaching and influence of certain medical schools. Thus the scientific research and discoveries of the immortal Jenner are to be gradually sacrificed and frittered away by ignorance and blind prejudice, rendered more blind yearly by the teaching of those who know better than they teach. It may be a question whether our profession, which has done such noble work for suffering humanity, can fully and prevent this great achievement of science from falling now and more into disuse—can prevent so great a light from being obscured, and prevent its healing rays from falling on the people at large, thus diminishing the sum total of human suffering and premature death. We trust this subject may receive some attention from able and most worthy members of our profession, as well as guiding investigation into new fields of discovery, thus illustrating that we can learn new things without forgetting the old.

Dr. C. F. Sumner of Bolton, reports:

1. The diseases for the past year have been much the same as in preceding years, except *pneumonia*, which was more prevalent and fatal during the winter and spring of 1895.

2. We have had but very few cases of *malaria*; have seen a few in Manchester. On the disease.

3. Occult.

A. R. Goodrich, M.D., of Vernon.

Erysipelas.—During the winter and early spring there has been many cases of diphtheritic throats, principally amongst children, some of them quite severe. Some would have suffered, yielding mainly to remedies. None fatal.

Malaria. — Has followed us through the year, less this winter than last summer and fall. There has been no time but some cases have been under treatment.

Muscles. — None.

Scaldf. Fevers. — A few mild cases.

PLASTER SPLINTS.

C. B. NEWING, M.D., STAFFORD SPRING.

I had thought I could not communicate anything which would be of interest, but to-day it comes to mind, in a case of fracture, to describe a method of using calve's plaster, which has some advantages over that of the plaster bandage, of which I gave a full description in a recent number of the *Medical and Surgical Reporter*, Philadelphia.

It is taking a cast of the anterior and posterior parts of the fractured limb after adjustment. It is very seldom that we find a case of fracture which cannot be reduced to its normal position, especially under the relaxing effects of ether. The general outline and length is easily obtained by extension, the lateral displacement by pressure with the fingers. Anæsthesia allows us to use the necessary time without torture to the patient. Also, we have the limb on the opposite side to guide us in adjusting the fractured one. The limbs of either extremity are far from straight; the leg and thigh are somewhat concave upon their inner aspect, slightly the reverse upon the outer. We find a corresponding divergence of the axis from a straight line.

This precludes the use of a straight splint, unless a short one, which cannot be depended upon. And right here let me say, that I know of no more important rule than this: that a splint should extend sufficiently to hold the joints next below and above immovable. If the joint moves, the muscles and probably the fractured ends may also, then follow displacement and deformity. There should be no mobility of the joints and muscles if we would get the best results. Opium is the sovereign remedy for muscular contractions, which must be guarded against. But these are not the principal difficulties. After the limb is set, what shall we use to keep the limbs immovable? If an oblique fracture, there is a constant tendency of the ends to slide by each other, and a tilting of one or other of the broken ends, and deformity. There are two principal means. The first is a splint which shall be an accurate cast of the limb, one which will fit the part as perfectly as the skin itself, and this is best obtained by the calve's plaster splint. If well applied there can hardly be any lateral displacement, for their accurate and smooth surfaces oppose it and the tendency to it. We have another means

which may be useful if the tendency to shortening is very great, that is, of course, counter-extension.

Another condition is absolute rest of the limb until the leg can be lifted up from its cast by the foot, or the arm by the hand, without its bending in the least. The splint is made by taking a piece of cotton cloth, doubled, cut of sufficient length, and of a width of nearly one-half the circumference of the limb. Wet the cloth to prevent too rapid hardening of the plaster, open the cloth and upon one half of its surface spread the plaster, worked up as thin as it can be without its cracking, upon the cloth one-half inch in thickness, the other half of the cloth brought over this at once, leaving a narrow free edge to be turned under and moulded to the fractured part which is previously set. If the leg, the posterior mould is to be applied first, and use the double-inclined plane of the ordinary sort with foot piece, and under cross piece to prevent rocking on the foot bed. In the trough of the leg piece, the mould is laid long enough below to include the heel and posterior part of the foot; upon this a layer of cotton batting, and the leg placed upon it, the sides brought up while plastic, and held by cloth first laid under the mould. The heel should be well pressed down into the depression made for it in the plane.

The anterior splint is prepared in the same way of course, extending from knee half way up the foot, two splints only are used, and their edges about one-third of an inch apart. The interspace allows of lightening the bandage as the swelling subsides, which is passed around the frame-work and mould. The plaster bandage is not so much under control as respects the swelling or its dissipation. No "natural" bone-setter with his gouge and knife can whittle out a splint of wood to equal this in accurate adaptation, though a hand-made splint with regard to conformation of the part is far better than the straight wooden ones which have been sold throughout the country. At the end of a month, gentlest passive motion of the joints should be given to prevent ankylosis. The cause of deformity in a large number of cases is the taking off the splints too early. Eight weeks is not too long keeping the limb motionless, save the passive motion which must be given by the surgeon himself.

The first deposit not having the firmness of bone which is deposited later, will not bear the strain of slightest usage without bending. Bony and firm union, it is stated, is not complete until three or four months. I leave the limb after the removal of the casts in four parts and cloth bandages with pasteboard, allowing motion of the joints. This dressing is very light and very firm, and clothing can be worn over them; they give protection, are not in the least troublesome to the patient, and should be worn until union and strength is fully completed. Especially is this necessary in fractures of children who are sure apt to take up

of falling and injury. After this system, many of the deformities resulting from too early taking off of splints, may be avoided. We know of no result more gratifying to the surgeon than to find at the last removal of the splint, a perfectly natural appearance of the limb at no late a day that we can feel assured it will remain so. Let me emphasize the importance of this later treatment. At the end of six weeks, on giving the limb passive motion, we find the fracture beginning to be firm and in good apposition and outline, the patient is content that he has a good arm or leg, he asks for greater freedom; in an evil moment we tell him he can use it a little, from that time he will be apt to use it too much, and at the end of second month we have the mortification of seeing a deformity, not that of shortening, but more or less deviation from the normal line.

If on this he has lifted too heavily, if the leg he has thrown his weight upon it and walked unaided, and what we had so well accomplished has been destroyed, and if our patient and his friends have ingratitude and credulity enough, we may hear of threatened prosecution for damages. At any rate we suffer loss of reputation, and the patient a loss of the full use of his limb.

We rather need say "no, you must wear your splint another month, and do not use your arm, but continue to carry it in its rest as before. Oh, don't throw any weight on your leg, but use a crutch"—tell him of the danger of deformity if he does not heed the advice.

I know of no cases requiring plain language more than these, and an intelligent patient will see the wisdom of it.

Alb's felt splint, made in Philadelphia, is a very firm and adaptable one; first, immersed in hot water, and inserted to the part then hardened with cold water.

Also there is a similar one made by Hanger & Petrie, New York, the latter best worked with dry heat. I have used both with the plaster, made of the combination of cold machines, after placing the fractured ends in good position and outline—having cut and fitted the splint gradual while hot, often to the arm of another person of same size and length.

Put along the hollow of the splint the plaster, enough to fill all the depressions of surface of the limb, over this a layer of cotton-wool, of width and length of splint, press it down duly to its place, hold still a few minutes till the plaster has set, then the opposite one in the same manner. Now the plaster is hard and the splint rigid, we have the most accurate cast of the part possible. There should be a slight intervening space between the splints, which are held snugly to the limb by the various bandage tightened or lightened according to the swelling. The advantages of this method over the plaster bandage are there is no setting upon to be done, it is much more steady, and we have

greater accuracy of fit, and perfect control. Increase of transverse diameter and shortening by the ends sliding by is less likely to happen. They are as unyielding as the bone, and make equal pressure at all points.

I don't know that plaster was ever used in this way before, but I have used it in this manner quite a number of years, and with results so satisfactory, that I shall be slow to change it.

Paper makes a good pattern; lay it on the flesh and cut its edges till its width and length are right, lay the paper on the splint material, and cut it while hot.

I have used the plaster alone in fracture of patella with best results; with leg raised and extended except the fragments, which are best held in position while the plaster is setting, by broad and long pieces of adhesive plaster laid over the patella transversely, with only the middle portion moistened, the free ends held by assistants, drawing downwards the upper fragment, and upwards the lower one, also draw and press upon the middle of the patella so that the fragments will not tilt up, as they are approximated and held there. Then lay on the plaster folded in moistened cloth with free edges turned under.

The plaster should be an inch in thickness over the bone, and thinner at the edges which extend three inches above and below the knee and two inches posteriorly at the inner and outer edges. A figure of eight bandage is now applied tightly before the plaster sets, so that it shall press the plaster down into the depressions above and below as well as at the sides of the bone. Of course the straight posterior splint must be used and to fashion allowed. Salt can be used to make the plaster harden rapidly. Use the best dissolved glue to make it firmer, though it hardens much slower. The swelling which rapidly follows fracture, from effusion, will delay the use of casts for a few days; in such case the fractured part can be placed in a trough loosely, with cloth for easy support to keep it steady; this allows of cold applications or rubbing with liniments until ready to be covered by permanent means.

APPENDIX B.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

The papers referred to this committee are, *first*, a report made to the Nebraska State Medical Society on the subject of medical education, or rather, the education of those persons seeking to become medical students; and, *secondly*, two reports made to the New Jersey State Medical Society, one covering the same ground as the above, and the other on the subject of "Medical Licenses." The subject of preliminary education proper to those who desire to become physicians was discussed last year by your Committee on Matters of Professional Interest in the State, and it is not desirable to add further to what was then said, and which can now be found in the "Proceedings" of that year (pp. 59-58). The plea of college education for medical men is one which demands our thoughtful consideration. The question is, how shall this very desirable object be effected? too unfortunately, only a very few of Connecticut's medical men study their profession in their own State. So long as the medical schools throughout the country, with very few exceptions, continue to receive all sorts and conditions of medical students and send them out into the world with the degree of M.D., the only remedy for a State society in attempting to elevate the standard of the education of medical men is to seek to obtain in every other State by legal enactment proper qualifications in those beginning study; or, what has been done by so many legislatures, demanding specified licenses before permitting practice within its own State. With us, then, the subject of medical education resolves itself into that of medical licensure. But is it not beyond the prerogative of a State to shut out a man from any means of livelihood he may select? It is the first duty of a State to take care of the lives of its citizens. It should therefore watch for dangers which approach from without and within; those whose very title betrays their nature, and no less those on which "safety" seems written,

but which are really wolves in sheep's clothing. The anarchist who, from hidden corner, hurls the dynamite bomb intended for his life by the law. The professional communist who, ignorantly to you and to himself, administers drugs in deadly doses to your child or to yourself, stalks through the State heralded by public press, or, becoming a citizen, acquires his knowledge by practice upon your friends and then leaves off, his toes to one whose men more learned had just begin. He who assumes to wear the mantle of the professional pacifist, being incompetent to perform his duties, is a greater source of danger to the public than a malignant disease. His action is an insult to the profession, his presence a degradation to it; his practice a public calamity. The absence of legislation is his license. Twenty-nine states and territories have enacted laws regulating the practice of medicine. [Henry Hudd, Esq., of the Philadelphia bar, author of the "Notes to the Leading Cases in the American Law of Real Property," has undertaken the work of compiling the substance of each such act of legislature now in force.] The constitutionality of such laws has been tested a number of times and affirmed by the courts. It is right, therefore, to seek the aid of the law—is it desirable? So long as the diploma of a medical college, irrespective of the qualifications which any such college may require of its graduates, furnishes a sufficient certificate for any one who wishes to enter the practice of medicine, especially in face of the fact that one institution said thirty thousand diplomas during the period of its chartered existence, so long it is very evident that some law should be applied. The committee of the Nebraska Medical Society recommend the establishment of a board of medical examiners whose duty it shall be, *first*, to examine all persons about to enter upon the practice of medicine in that State; *second*, to license such persons only to practice as may in their opinion possess the requisite high qualifications; and to permit no other person to practice. The proposition is not sufficiently definite, and lacks practicalness because it does not explain by what authority such a board should be constituted or the character of its members. The New Jersey State Society in June, 1885, proposed a bill for adoption during the current year establishing two boards of medical examiners for the State, whose duty it shall be to examine the candidates and qualifications of all persons contemplating the study of medicine in the State. As a prerequisite they demand what may be termed a liberal education. The members of each district

society, under penalty of forfeiture of membership, are not to receive under their care any student of medicine who has not passed the necessary examination and received the approval of one of the boards of examiners. This does not reach those who propose to practice medicine in that State, the very lax law for which will be found on page 869, five of our last "Proceedings," and the committee devote their report further to a discussion of some efficient method of licensing for those who wish to enter the ranks of practicing physicians. They declare, *first*, that the power of licensure ought to be separated from the function of instruction and be vested in some authority within the State; *second*, that the governor or supreme court of the State, as the legislature may determine, is the proper authority; *third*, that in order to an intelligent exercise of this power, all candidates for this privilege ought to be "thoroughly, carefully, and impartially examined by a competent medical board in all the departments of medical and surgical science and practice necessary to complete medical education, and, on the recommendation of such board only receive executive licensure"; *fourth*, that the board of examiners ought to consist of seven members of the Medical Society of New Jersey, of at least five years' practice, selected by the licensing power from twelve nominees of the New Jersey Medical Society. The appointment of two similar boards is provided for, should one not be found sufficient; mixed boards — persons holding opposite theories — are disapproved of, and the State Board of Health rather than the Medical Society, selected as the proper body to bring the subject before the legislature. This proposed statute is the product of the mature deliberation of some of the best medical minds in New Jersey, and is therefore worthy our consideration. Your committee, however, is opposed to the 86th proposition of the act just considered, recognizing the fact that in our commonwealth diverse theories of medicine prevail. Their adherents are equal in social rank, wealth, and general intelligence, and no legislation can be had which does not recognize these facts. All have rights which each must respect. In this condition it is evident that some compromise must be attempted if there is to be any unity of action among medical men of all theories. In our own State are three State Medical Societies, and it would be idle for this society to attempt to secure a law prohibiting any persons from the practice of medicine except according to the rule which we would establish. For each one of these socie-

ties to have a separate board, with power to examine and license would only be to enter each in a race as to which could crowd in the most of its own kind of men. Unity of action is therefore necessary. Our demands, if they are to succeed, must be so obviously just, and in the interest of every State society and of the great body of medical men of all faiths, that no cry of persecution can be raised. Hence, it is necessary to begin this work on a much lower plane than many would prefer. To meet this difficulty the American Medical Association, at its session in New Orleans, directed its secretary to transmit to each State Medical Society a copy of an "Act to establish a State Board of Medical Examiners and Licensers, and to define the duties and power of such Board."

The report of your committee is, then, that in our own State the subject of medical education is one of medical licensure; that the work attempted in Nebraska and New Jersey should be vigorously prosecuted in Connecticut; that it should be on a plan broad enough to demand the support of all respectable sects. Further, the members of the examining board should be appointed or nominated by physicians, and should have no connection with any teaching body.

In concluding this part of our report we present the act suggested by the American Medical Association which we have modified to suit our own commonwealth, and earnestly request that the State Board of Health be requested to secure its adoption by the legislature at its next session.

A plan of inter-State representation is referred to us from the Nebraska State Medical Society. Each State Society selects from its number one person called a delegate, who calls from the doings of the society to which he is credited, such essays, clinics, or other items as he may deem of interest for presentation at the annual meeting, and for publication with the transactions of his own society. We do not deem the measure practicable with our own society at present. All of which is respectfully submitted,

N. E. WORDIN, M.D.,

H. A. CARRINGTON, M.D.

AN ACT

TO ESTABLISH A STATE BOARD OF MEDICAL EXAMINERS
AND LICENSERS, AND TO DEFINE THE DUTIES
AND POWER OF SUCH BOARD.

SECTION 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Connecticut in General Assembly met, and it is hereby enacted by the authority of the same: That there shall be appointed by the Governor a State Board of Medical Examiners and Licensees consisting of five members, one of whom shall serve for one year, one for two years, one for three years, one for four years, and one for five years, and hereafter he shall each year appoint one member to serve for five years in place of one whose term then expires. They shall be graduates of some legally chartered college or university having the power to confer medical degrees, who shall have practiced medicine or surgery for a period of not less than five years, but none of whom shall be members of the faculty of any such college or university. *Provided*, that in the appointment of said board at least three members shall be chosen from a list of twenty-one names submitted by The Medical Society of the State of Connecticut, and one each from the Homoeopathic and Eclectic State Societies. In default of the submission of such list the Governor shall appoint.

SEC. 2. Upon the organization of the said board it shall be determined by lot which member shall serve for a term of one year, which for a term of two years, which for a term of three years, and so on. Every appointment to fill a vacancy or vacancies in the said State Board of Medical Examiners and Licensees shall be for the unexpired term, and the said vacancy or vacancies shall be filled by the Governor within sixty days after notice to him of the same. *Provided*, that when the vacancy has been caused by death, resignation, or removal of a member appointed from the list furnished by the Medical Society of the State of Connecticut the said vacancy shall again be filled from a list of three names for each vacancy furnished by The Medical Society of the State of Connecticut. In default of the submission of such list the Governor shall appoint.

SEC. 3. The said board shall be a corporation by the name and style of The State Board of Medical Examiners and Licensees of the Commonwealth of Connecticut, and shall have and use a common seal, and as such corporation may use and be sued, contract and be contracted with, plead and be impleaded, to the extent to enable it to carry out the powers conferred upon it by this act. Said Board may make and adopt all necessary rules, regulations, and by-laws not inconsistent with the constitution and laws of this Commonwealth or of the United States, to

enable it to perform its duties and transact its business under the provisions of this act, and shall upon its organization elect from its own number a president and a secretary, who shall also act as treasurer, both of whom shall hold their offices for a term of one year.

SEC. 4. Every person who shall be appointed to serve on the said State Board of Medical Examiners and Licensees in the manner aforesaid shall receive a certificate of appointment from the Governor, and within thirty days after receiving the certificate of appointment shall file the same with the Clerk of the Court of Common Pleas in the county in which he or she shall have previously practiced, and shall also file a certificate of his or her said appointment as a member of said State Board of Medical Examiners and Licensees in the office of the Secretary of State of the Commonwealth of Connecticut.

SEC. 5. The said State Board of Examiners and Licensees shall examine all applicants for license to practice medicine or surgery in this Commonwealth who are properly qualified according to the provisions of section 2 of this act, and shall exclude no one from examination nor reject him or her because of his or her affiliation to a special system of practice. It shall hold two stated meetings each year, at New Haven, one on the second Tuesday in May, and one on the second Tuesday in November, respectively, and may hold special meetings at such times as it may deem proper. All examinations shall be conducted in writing, and all examination papers, together with the reports and action of the examiners thereon, shall be preserved as the records of the said board for a period of five years, during which time they shall remain open for inspection at the office of the said State Board of Medical Examiners and Licensees, which office shall be in the capitol building, Hartford.

SEC. 6. Such examinations shall be in anatomy, physiology, general chemistry, pathology, therapeutics, principles and practice of medicine, surgery, and obstetrics. *Provided*, that each applicant upon receiving from the secretary of the board an order for examination shall receive also a confidential number which he or she shall place upon his or her examination papers, so that when said papers are passed upon by the examiner the latter shall not know by what applicant said papers have been prepared; that upon each day of examination all candidates be given the same set or sets of questions. *It is further provided*, that the examination papers shall be marked upon a scale of one hundred, and that in order to secure a license it shall be necessary for the applicant to attain such average as shall hereafter be determined by the said State Board of Examiners and Licensees.

SEC. 7. Any person on paying ten dollars to the secretary of the said board, and on presenting satisfactory proof of being over twenty-one years of age, of good moral character, and of having received a diploma from any legally chartered medical college or university having authority

to confer degrees in medicine, shall be entitled to examination by the said board, and in case of failure at any such examination shall have the privilege of a second examination after the expiration of twelve months without the payment of any additional fee.

SEC. 8. For the purpose of examining and licensing applicants, as well as for the transaction of other business, three members shall constitute a quorum of said board; and when the president and secretary of said board shall find that an applicant has attained the necessary examination average they shall issue to him or her a license to practice medicine and surgery in the State of Connecticut.

SEC. 9. After the first day of no person shall enter upon the practice of medicine or surgery in the State of Connecticut unless he or she has complied with the provisions of this act, and shall have exhibited to the clerk of the Court of Common Pleas of the county in which he or she resides a license duly granted to him or her by the said State Board of Examiners and Licensing, upon which he or she shall be entitled upon the payment of one dollar, to be duly registered in the office of the clerk of the Court of Common Pleas in said county; but nothing in this act shall be so construed as to prevent the practice of medicine and surgery by any practitioner who shall have been duly registered before the first day of according to the terms of the present acts of Assembly.

SEC. 10. For the purpose of this act the words "practice medicine or surgery" shall mean to treat or attend any person for money, gift, or reward.

SEC. 11. Nothing in this act shall apply to commissioned medical officers of the United States army or navy, or of the United States marine hospital service, nor to any member of the house or resident staff of any legally chartered medical college or university or hospital during his term of service therein, nor to physicians of other States meeting duly registered physicians of this State in consultation, nor to those practicing dentistry exclusively, nor to midwives.

SEC. 12. The secretary shall record in a book to be kept for the purpose in the office of the said board the names, age, sex, residence, date and place of graduation, of each applicant, together with the date of examination, the examination number, the examination average on each branch, the general average, and date of issue of license in case such license is granted. Said book shall be open to public inspection. And on or before the last day of December of each and every year the said board shall publish, or cause to be published, a list of the names and addresses of each person who shall have received license from the said board within twelve months immediately thereto preceding.

SEC. 13. The members of the said board shall each receive a salary not exceeding dollars per annum, to be paid out of the fees for

examination. The secretary and treasurer shall receive an additional salary to be fixed by the board, and shall give bond in the sum of one thousand dollars that he or she will faithfully account for the sums paid into his or her hands. The balance of the fees, after the necessary expenses of the board, which must be stated by affidavit, have been deducted, shall be paid into the treasury of the Commonwealth of Connecticut.

SEC. 14. The Governor may remove any member of the said board for unprofessional or dishonorable conduct upon the recommendation of a two-thirds vote of the said board.

SEC. 15. The sum of five hundred dollars is hereby appropriated to meet the necessary and legitimate expenses of the said board for the year commencing the first day of

SEC. 16. This act shall take effect on the first day of

SEC. 17. Should any charge or charges of unprofessional conduct be preferred against any duly licensed practitioner of medicine or surgery the said State Board of Medical Examiners and Licensers of the said Commonwealth of Connecticut shall have power to summon said practitioner before it, having previously given him or her fifteen days' notice of such charge or charges, with the name or names of the party or parties preferring the same, and the name or names of any witness or witnesses to be called and examined in support of said charge or charges, and upon hearing thereof and having heard the party or parties so accused and any witness or witnesses he or she may desire to call as to his or her defense, the said State Board of Medical Examiners and Licensers shall, upon satisfactory proof of the truth of said charge or charges, refer his or her case to the district attorney of the county wherein he or she shall have practiced, with all specifications and all evidence in support of the same, who shall apply for a rule upon the party so accused to show cause why his or her license shall not be revoked, and the proper court shall have power so to direct such license to be stricken from the list recorded in the office of the clerk of the Court of Common Pleas for the county in which the said accused shall reside.

SEC. 18. Any person violating the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof in the Superior Court of the county where the offense shall have been committed, shall pay a fine of not less than fifty, nor more than five hundred dollars, for each offense.

APPENDIX C.

REPORT OF DELEGATE TO THE NEW YORK STATE MEDICAL ASSOCIATION.

As it had been my privilege, as it was also find of some other members of this society, to attend the year previous, by invitation, the first annual meeting of the youngest and most progressive of all the medical organizations of the neighboring State of New York, we were interested to observe whether the very remarkable success of this new association, based as it was upon the broad principles of self-government and equality of rights, in contradistinction from a government of the many by the very few, would be continued and give promise of permanent and healthy growth. It was at once apparent from the large number of members present that the love of freedom and equality among the profession of that State was well nigh universal, and left no room to doubt that when the issue should be squarely presented to our own society, it would, as it has since done, declare itself in favor of such changes in our organic law as will secure to every member the same rights of self-government and individual representation.

This association came into existence under circumstances of difficulty, almost precisely similar to those which are now surrounding our own society, and threaten its permanency. It was organized at Albany in February, 1854, by a called convention of one hundred and sixty-four members of the old State Medical Society of New York, who formed at first a fellowship, the members of which are still called "Founders," to distinguish them from the mass of fellows who now constitute the association. The first-year delegate from that body who has just addressed you, was one of the original seven who inaugurated the movement which has been followed by such splendid results. Thus all the great reforms which have blessed the world have had their origin in a comparatively small initial effort. Before the adjournment of the first annual meeting 256 additional fellows had been received, and after the adjournment 72 others were added, making the total number of fellows at the close of the year 334.

At this first annual meeting to which I now refer, there were in attendance about 250 fellows, besides more than 50 invited guests, and delegates from other societies, indicating that the public professional interest in the success of the new movement was active and widespread, and the result of the hearty sympathy and good will manifested on every hand.

At that first meeting there were nearly fifty papers presented; but of course only a part of these could be read for want of time, although the meeting continued for four days, with three daily sessions. If it were proper and gracious for visitors to offer criticisms of the methods adopted, we think the only one which could justly be made would be this: The large number of scientific papers presented, some of them of especial interest, was far too great to admit of anything like a satisfactory discussion of those which were read, to say nothing of the large number read only by title, but which, as we read them in the published Transactions (a handsome volume of 650 pages), are good measures of the wide culture and industrious energy of the professional minds included in this newly-formed fellowship.

It was very evident, both at this meeting and the one for 1885, that the official oversight of the association, particularly with respect to the wise arrangements to secure, *first*, an abundance of contributions from capable and willing workers, and *second*, a judicious selection of good speakers to open and sustain the discussions of the papers, had been most vigilantly and skillfully exercised. Consequently, there was no time lost in dallying or in waiting for men not prepared to speak. Of course, each of the speakers had been supplied with a synopsis of the paper he was to discuss, so that the current of the conversation passed smoothly on with copious flow, and the pleasure of the audience was visible on every face.

Another feature of the meeting contributed very much to its usefulness and the economy of time. While the reading and the discussion of papers commenced and terminated at fixed hours, most agreeable to the audience, the morning and evening hours, also fixed by the rules, were devoted to the prompt despatch of routine business, but at the expiration of these hours, the reading and discussions were resumed. Executive and other committees held their sessions at hours announced by the chair, according to the published programme, and with the least interruption of the

literary exercises of the meeting. A very noticeable thing about the conduct of the association, and one which I heard often alluded to as the controlling reason for its harmonious working, was the palpable absence of political machinery, its officers being nominated by an executive committee elected by the district societies (our county meetings), but voted for by each member of the association attending the annual meeting.

The most remarkable and intensely interesting feature, however, of this notable occasion, so replete with the richest materials for professional enjoyment, so stimulating to professional emulation, so healthy an incentive to professional honor and a spirit of kindly concord, was the almost unprecedented discussion growing out of the reading of the learned and exhaustive paper on Pneumonia by the late lamented Austin Flint, by whose decease the medical profession of the United States has lost its most conspicuous, its most brilliant, and its best-beloved representative, while this society has been deprived of the great honor it had expected to confer upon itself to-day, by the election to our membership of this distinguished physician, so well known in both hemispheres. You may imagine, but all words of mine would fail to express the effect which this rare symposium in medical science produced upon my own mind, or my lasting regret that every member of this body could not have been present. It has been my privilege to be present at many similar assemblies of representative medical men in this and other countries, but I remember no one that surpassed it in those elements which everywhere contribute to the most important and useful results of such occasions, or left upon the mind a more delightful and enduring impression.

I was glad to recognize among the audience none or few of our members, who I am sure must all have shared with me the feeling of regret that we were so few, and will join me in the hope that hereafter we may be largely represented at the annual meetings of the New York State Medical Association.

S. G. HUBBARD.

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The names of those who have been Presidents are in Capitals.

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S. C. Johnson,*
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South Britain:
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WALLINGFORD:
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Walter L. Barber,
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William C. Halmon,
P. M. Cannon,
Charles H. French,
Charles S. Rodman,
J. M. Benedict,
Thomas L. Astleth,
Martha M. Dean.

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NEW LONDON COUNTY.

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A. T. Douglas,
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Speonington:
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George D. Stanton.

Unconville:
Eust Mathewson.
Yantic:
Elihu Phinney.*

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August Stratton,
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Geo. E. Lonsdale,
A. L. Scott.

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Newtown:
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Fairfield:
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E. C. Clark,
R. L. Higgins,
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H. L. Bohannan,
C. S. Dooly,
Samuel Person.

STEWART:
Seth Hill.

WATER:
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WHEATPORT:
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F. Powers,
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E. H. Mead.

Sandy Hook:
Aaron P. Smith.

WILTON:
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A. B. Graham.

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WINDHAM COUNTY.

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C. J. Fox, M.D., of Williamstic, Clerk.

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Henry F. Hammond.

Danburyville:
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Nathaniel Richard.

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E. H. Davis.

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David Samuel,
Kinball E. Dwight.

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W. H. Julian.

Woodsrock:
E. E. Gaylord.

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* Over sixty years of age.

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W. J. Beech,

J. J. Newcomb,

C. O. Beebe,

WM. DEMING,

Wm. C. Denning.

Northfield:

C. L. Blake.

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C. W. Camp.

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Edward Sanford.

Gaylordville:

Charles F. Couch.

Goshen:

J. H. North.

Terryville:

W. P. Swell.

NEW HARTFORD:

Jerry Barwell.*

NORFOLK:

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J. H. Stevens,

Jas. C. Kendall.

TUNSTALL:

Wm. Woodcraft.*

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ROCKY:

Myron Downs.*

LILLVILLE:

W. Swell.

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WALLINGFORD:

Orlando Brown.

Wm. J. Ford.

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WATERBURY:

W. S. Mudgett.

Eugene C. French.

WINCHESTER, West Windsor:

James Welch,*

John W. Bulwell.

WOODBURY:

Harmon W. Stone.

L. Y. Ketchum.

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MIDDLESEX COUNTY.

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J. FRANK CALLEP, M.D., of Cromwell, Clerk.

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Geo. W. Burke,*

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DURHAM: R. W. Mathewson.*	PORTLAND: C. A. Sears, Cornelius E. Hammond, C. P. Lingquist, A. J. Campbell.
FOOT: Alanson A. Hough,* Charles H. Hubbard, Wells A. Knoll.	SAYBROOK, Deep River: Edwin Baldwin,* J. H. Moody.
	WESTBROOK: G. C. H. Gilbert,* T. H. Blountfield.

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TOLLAND COUNTY.

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TOLLAND: William H. Clark.	STAFFORD: Wm. N. Clark.*
BALTON: CHAS. P. SUMNER.*	STAFFORD SPRINGS: C. E. Newton, F. L. Smith.
ELLINGTON: J. A. Warren.	VERNON, Vernon Depot: A. R. GOODRICH.*
MANFIELD: F. E. Johnson.	ROCKVILLE: Stephen G. Bailey,* Francis L. Dickinson,* Frederick Gillick, E. K. Leonard, T. F. Rockwell, Peed Walsh.
NORTH CANTON: Wm. C. Haver.	WILLIAMSBURG: W. V. Wilson.
SOMERS: S. W. Houghton.	
SOUTH CANTON: Henry S. Dean,* E. P. Fitch.	

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*Over sixty years of age.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY.

With Date and Place of Graduation, and Postoffice Address.

Name.	Place and Date of Graduation.	P. O. Address.
Abrams, A. E.	Albany, 1881.	Collinsville.
Adams, A. E.	Col. Phys. and Surg., 1880.	Danbury.
Allen, Charles N.	Burlington, 1881.	Messop.
Allen, H. O.	Univ. N. Y., 1873.	Brombrook.
Allen, Hall.	Univ. N. Y., 1827.	Milford.
Alting, W. G.	Yale, 1870.	New Haven.
Almy, L. R.	Bellevue, N. Y., 1875.	Norwich.
Alsop, J. W., Jr.	Univ. N. Y., 1864.	Middletown.
Alton, C. D.	Bellevue, 1873.	Hartford.
Altwater, C. H.	Col. Phys. and Surg., 1871.	Wallingford.
Andrews, Wm. H.	Bellevue, N. Y., 1873.	Milford.
Arvey, Geo. W.	Yale, 1861.	Hartford.
Arnolds, J. P.	L. I. Hosp. Coll., 1877.	Hartford.
Astette, Theo. L.	Bellevue, 1880.	Wassonry.
Ayers, W. O.	Yale, 1834.	New Haven.
Bacon, Francis.	Yale, 1851.	New Haven.
Bacon, Wm. T.	Univ. N. Y., 1871.	Hartford.
Bailey, Jas. E.	Col. Phys. and Surg., 1884.	Middletown.
Baker, Rufus.	Columbia Coll., D. C., 1844.	Middletown.
Baker, Scott R.	Yale, 1879.	Ansonia.
Baldwin, Chas. T.	Bel. Med. Coll., N. Y., 1883.	Birmingham.
Baldwin, N. C.	Yale, 1827.	South Britain.
Banks, Geo.	Col. Phys. and Surg., 1884.	Danbury.
Banks, Nicholas.	Yale, 1844.	Wallingford.
Barber, W. L.	Bellevue, 1873.	Waterbury.
Barber, W. P.	Dartmouth, N. H., 1870.	Linton.
Barber, A. E.	Berkshire, Mass., 1834.	Berk.
Barlow, J. W.	Yale, 1869.	Westville.
Barnes, Lewis.	Univ. Buffalo, N. Y., 1851.	Oxford.
Barnett, J. P.	Yale, 1859.	West Haven.
Barrett, E. X.	Vienna, Maastricht, 1860.	Purvis.
Barrons, A. W.	Yale, 1841.	Hartford.
Barnum, Cooper.	Burlington, Vt., 1878.	Windsor.
Beach, W. J.	Col. Phys. and Surg., 1867.	Litchfield.
Beck, Chas. C.	Col. Phys. and Surg., 1881.	Hartford.

Name	Place and Date of Graduation	P. O. Address
Beardsley, E. M.	Yale, 1845.	Hartford.
Beardsley, U. L.	Bellevue, N. Y., 1875.	Hingham.
Beckwith, P. E.	Coll. Phys. and Surg., 1871.	New Haven.
De Lenda, F. J.	Harvard, 1892.	New London.
Belden, C. O.	Coll. Phys. and Surg., 1883.	Litchfield.
Bell, Newton S.	Springston, Vt., 1861.	Windsor.
Belton, F.	Yale, 1872.	New Haven.
Bendish, Geo. W.	Coll. Phys. and Surg., 1879.	South Norwalk.
Bendish, J. M.	Univ. N. Y., 1887.	Winsted.
Beylich, F. O.	Berkshire, 1870.	Williamsville.
Beylich, H. H.	Berkshire, 1881.	Bristol.
Bowditch, W. C.	Coll. Phys. and Surg., 1890.	Hamden.
Edwell, Edwin.	Yale, 1847.	Deep River.
Brownell, E. H.	Durham, 1892.	East Haddam.
Brownell, John W.	Berkshire, 1843.	West Winsted.
Bull, Emma H.	Univ. N. Y., 1828.	Bridgeport.
Bushy, E. H.	Yale, 1829.	New Haven.
Bushy, T. H.	Yale, 1886.	New Haven.
Bisell, E. L.	Yale, 1886.	New Haven.
Bisell, William.	Yale, 1836.	Lakeville.
Baker, C. L.	Yale, 1825.	Northford.
Budgett, Henry.	Bellevue, 1881.	Bridport.
Bromfield, T. B.	Coll. Phys. and Surg., 1876.	Westbrook.
Bushman, R. L.	Univ. N. Y., 1823.	Stamford.
Bolles, Jas. C.	Vermont Med. Coll., 1846.	Moorville.
Boston, Geo. B.	Yale, 1856.	Woodport.
Bowers, W. C.	Coll. Phys. and Surg., 1877.	Bridgmont.
Bradshaw, E. T.	Coll. Phys. and Surg., 1872.	Merriden.
Bridley, W. L.	Yale, 1864.	New Haven.
Branson, F. N.	Bellevue, 1861.	New London.
Brayton, Charles N.	Coll. Phys. and Surg., 1874.	Stonington.
Brewer, E. P.	Durham, 1878.	Newitt.
Brewster, Daniel T.	Yale, 1837.	Hartford.
Brown, Henry.	Yale, 1847.	New Haven.
Brown, Orlando.	Yale, 1831.	Madison.
Brown, W. T.	Harvard, 1889.	Litch.
Brownson, Wm. G.	Coll. Phys. and Surg., 1861.	New Canaan.
Bud, Henry W.	Coll. Phys. and Surg., 1847.	Litchfield.
Bull, J. N.	Coll. Phys. and Surg., 1875.	Plainville.
Bunce, H. C.	Yale, 1850.	Glastonbury.
Bunsell, W. H.	Coll. Phys. and Surg., 1879.	Bethelwood.
Burchard, Wm. M.	Georgetown, D. C., 1896.	Morrisville.
Burke, Geo. W.	Yale, 1848.	Middleton.
Burke, Wm. C., Jr.	L. I. Coll. Hosp., 1823.	South Norwalk.
Burns, S. R.	Coll. Phys. and Surg., 1882.	Windsor Locks.
Burnett, P. V.	Univ. N. Y., 1876.	Middleton.
Burwell, Jerry.	Berkshire, 1859.	New Hartford.
Bush, Geo. M.	Yale, 1861.	New Haven.
Butter, John S.	Jefferson, Pa., 1828.	Hartford.
Cahel, J. P.	Yale, 1886.	Canaan.
Camp, C. W.	Univ. N. Y., 1874.	Canaan.
Campbell, Jas., Jr.	Univ. Vermont, 1871.	Hartford.
Campbell, A. J.	Coll. Phys. and Surg., Berk., 85.	Putnam.
Cannon, F. M.	Univ. N. Y., 1845.	Waterbury.
Carleton, Charles M.	Harvard, 1861.	Norwich.
Carrick, W. H.	Coll. Phys. and Surg., 1861.	New Haven.
Carrington, Charles.	Coll. Phys. and Surg., 1848.	Farmington.

Names.	Times and Date of Graduation.	P.O. Address.
Carrington, Henry A.	Harvard, 1848.	New Haven.
Cassidy, Patrick.	Univ. Vermont, 1841.	Norwich.
Castle, F. E.	Yale, 1878.	Watbury.
Chamberlain, M. N.	Yale, 1866.	Cheshire.
Chapin, F. W.	Univ. N. Y., 1882.	Pondret.
Chapman, A. T.	Coll. Phys. and Surg., 1864.	Mytic.
Chapman, S. H.	Coll. Phys. and Surg., 1866.	New Haven.
Chase, S. L.	Coll. Phys. and Surg., 1860.	Colchester.
Child, E. M.	Univ. N. Y., 1877.	Meredon.
Childs, Seth L.	Woodstock, Vt., 1835.	East Hartford.
Churchill, Asa H.	Yale, 1837.	Moscow.
Clarke, E. C.	Univ. Vermont, 1868.	Socwask.
Clark, P. P.	Coll. Phys. and Surg., 1876.	Danbury.
Clark, William H.	Univ. N. Y., 1882.	Tolland.
Clark, Wm. N.	Yale, 1838.	Stafford.
Clason, A. F.	Univ. N. Y., 1875.	Danbury.
Clary, George.	Yale, 1857.	New Britain.
Cleveland, D. A.	Roxbury, Me., 1838.	Middlesex.
Crooks, E. F.	Yale, 1841.	Mytic Bridge.
Crooks, Frank A.	Coll. Phys. and Surg., 1873.	Mytic Bridge.
Cogswell, W. H.	Bellevue, 1851.	Stratford.
Coleman, M. J.	Univ. N. Y., 1865.	New Britain.
Cummings, B. N.	Castleton, Vt., 1848.	New Britain.
Cushman, W. H.	Univ. N. Y., 1882.	Andover.
Congan, Joseph A.	Bellevue, N. Y., 1878.	Hartford.
Curran, E. T.	Coll. Phys. and Surg., 1881.	Cheshire.
Couch, Charles P.	Berkshire, 1853.	Gaylesville.
Crary, David.	Castleton, 1834.	Hartford.
Crary, David, Jr.	Yale, 1869.	Hartford.
Cramer, Levi A.	Woman's Coll., Pa., 1885.	New Haven.
Creed, C. V. R.	Yale, 1877.	New Haven.
Creslin, L. M.	Univ. N. Y., 1881.	New Britain.
Creslin, M. A.	Coll. Phys. and Surg., 1874.	New Haven.
Crosby, Noah.	Berkshire, 1865.	Hartford.
Crosby, Jos. F.	Coll. Phys. and Surg., 1882.	New London.
Crosfield, F. S.	Bellevue, 1878.	Hartford.
Crothers, T. D.	Albany, 1865.	Hartford.
Cummings, Jos. R.	Coll. Phys. and Surg., 1883.	Bridgeport.
Cummings, Wilks.	Univ. N. Y., 1882.	Bridgeport.
Dallen, Jacob D.	Univ. of N. Y., 1871.	Williamsville.
Daggett, David L.	Yale, 1843.	New Haven.
Daggett, Wm. G.	Univ. of Pa., 1883.	New Haven.
Daily, C. S.	Charleston Med. Coll., 1866.	Woodford.
Dart, J. W.	Bellevue, 1851.	New London.
Darting, A. E.	Harvard, 1872.	Killingly.
Davis, C. B. S.	Univ. N. Y., 1865.	Merrim.
Davis, E. H.	Burlington, N. J., 1872.	Moscow.
Davis, G. P.	Coll. Phys. and Surg., 1869.	Hartford.
Davis, H.	Yale, 1855.	Wallingford.
Dewson, I. A.	Univ. N. Y., 1882.	Hartford.
Dey, L. L.	Yale, 1868.	Westport.
DeForest, Wm. R.	Yale, 1846.	New Haven.
DeForest, Louis S.	Univ. of Jena, 1885.	New Haven.
Dean, H. S.	Jefferson, 1882.	South Coventry.
Dering, Ralph.	Yale, 1857.	Skane.
Dering, Wm.	Yale, 1856.	Litchfield.
Dering, Wm. C.	Coll. Phys. and Surg., 1884.	Litchfield.

Name	Place and Date of Graduation	P. O. Address
Derrickson, John H.	Jefferson, 1850.	Warrior
Dibble, Frederick L.	Yale, 1838.	New Haven.
Dickinson, F. L.	Yale, 1846.	Rockville.
Dunham, W. H.	Univ. N. Y., 1881.	Purchase.
Douglas, A. T.	Univ. N. Y., 1842.	New London.
Doutell, Henry.	Yale, 1872.	Moriden.
Downes, Chas. M.	Yale, 1884.	New Haven.
Dowds, F. R.	Coll. Phys. and Surg., 1878.	Bridgeport.
Dowds, Myron.	Yale, 1868.	Balsary.
Duchau, M. V. B.	Harvard, 1867.	Greenfield Hill.
Dunn, Martha M.	Women's Coll., Pa., 1878.	Waterbury.
Dwight, K. K.	Coll. Phys. & Surg., Balt., 86.	Williamson.
Dwyer, John.	Univ. N. Y., 1871.	Hartford.
Eber, Arnold.	Dartmouth, 1878.	Simsbury.
Edgerman, Francis D.	Coll. Phys. and Surg., 1884.	Middletown.
Eggoston, J. D.	Coll. Phys. and Surg., 1829.	Meriden.
Ellis, Gustavus.	Coll. Phys. and Surg., 1889.	New Haven.
Ellsworth, F. W.	Coll. Phys. and Surg., 1869.	Hartford.
Ensign, R. E.	Albany, 1858.	Bevila.
Estley, F. P.	Univ. Mich., 1872.	Waterbury.
Fabrick, Geo. B.	Yale, 1869.	New Haven.
Farris, Anna J.	Women's Med. Coll., Pa., '74.	Moriden.
Field, Albert.	L. I. Coll. Hosp., 1867.	East Hampton.
Fitch, Geo. T.	Bellerose, N. Y., 1877.	Thompsonville.
Fisher, Wm. E.	Univ. Pa., 1873.	Middletown.
Fiske, L. P.	Univ. N. Y., 1875.	Southington.
Fitch, C. L.	Dartmouth, 1881.	New Haven.
Fischler, Henry.	Yale, 1878.	New Haven.
Flinn, E. P.	Yale, 1879.	South Coventry.
Ford, Wm. J.	Univ. N. Y., 1884.	Washington.
Foster, J. P. C.	Yale, 1878.	New Haven.
Foster, Warren W.	Harvard, 1882.	Pelham.
Fox, Charles A.	Coll. Phys. and Surg., 1881.	Hartford.
Fox, Charles J.	Univ. N. Y., 1828.	Williamson.
Fox, Edw. G.	Univ. N. Y., 1861.	Wethersfield.
Fox, Russell.	Univ. N. Y., 1847.	Wethersfield.
French, E. C.	Ann Arbor, 1882.	Waterbury.
French, Charles H.	Bellevue, 1886.	Waterbury.
Frost, C. E.	Copenhagen, 1879.	Hartford.
Frost, C. W. S.	Coll. Phys. and Surg., 1886.	Waterbury.
Fulder, Horace S.	Coll. Phys. and Surg., 1865.	Hartford.
Fulter, Jas. R.	Bellerose, 1825.	New London.
Guthrie, S. H.	Harvard, 1877.	Bridgeport.
Gates, H. K.	L. I. Coll. Hosp., 1862.	Litchfield.
Gaylord, C. W.	Yale, 1872.	Brainerd.
Gaylord, E. E.	Yale, 1828.	Woodstock.
Gels, H. P.	Bellerose, 1869.	Simsford.
Gibson, T. P.	Jefferson, 1857.	New Haven.
Gilbert, G. C. H.	Yale, 1814.	Wethersfield.
Gilbert, L. M.		New Haven.
Gilbert, S. D.	Yale, 1871.	New Haven.
Gilman, F.	Coll. Phys. and Surg., 1867.	Rockville.
Gladwin, Ellen T. H.	Women's Med. Coll., N. Y., February, 1872.	Hartford.
Gladney, U. C.	Dartmouth, 1883.	Bridgeport.

Name.	Place and time of graduation.	Place Address.
Goodrich, A. R.,	Dartmouth, 1846.	Verona.
Goodwin, R. S.,	Col. Phys. and Surg., 1868.	Thetford.
Goodwin, R. H.,	Yale, 1868.	North Haven.
Gordon, A. R.,	Yale, 1829.	Wilton.
Gordon, F.,	Yale, 1878.	Woolen.
Gracian, John H.,	Yale, 1868.	Old Saybrook.
Gray, Henry,	Dartmouth, 1847.	Bloomfield.
Gree, John,	Yale, 1865.	Myrtle River.
Gregory, James G.,	Col. Phys. and Surg., 1868.	Somerville.
Guthrie, E. H.,	Col. Phys. and Surg., 1865.	Old Lyme.
Griggs, E. L.,	L. I. Col. Hosp., 1864.	Watbury.
Groves, O. B.,	Univ. N. Y., 1847.	Williamsville.
Grove, J. E.,	Univ. N. Y., 1878.	Gloucester.
Grove, R. M.,	Univ. N. Y., 1875.	North Manchester.
Grove, H. W.,	Col. Phys. and Surg., 1864.	Rocky Hill.
Hallock, Frank B.,	Col. Phys. and Surg., 1865.	Cromwell.
Hallock, William B.,	L. I. Col. Hosp., 1864.	Cromwell.
Hammock, C. E.,	Univ. N. Y.,	Putnam.
Hammock, Henry F.,	Harvard, 1866.	Killingly.
Hare, T. S.,	Bellefleur, N. Y., 1864.	Torrington.
Harrison, Patrick,	Yale, N. Y., 1884.	Naumuck.
Harris, G. W.,	Col. Phys. and Surg., 1867.	Old Lyme.
Hart, S. W.,	Yale, 1855.	New Britain.
Hart, P. M.,	Col. Phys. and Surg., 1862.	Hartford.
Havens, W. L.,	Col. Phys. and Surg., 1865.	Hartford.
Hawkes, Wm. W.,	Yale, 1861.	New Haven.
Havens, Wm. C.,	Yale, N. Y., 1877.	North Coventry.
Hazen, M. C.,	Univ. Michigan, 1857.	Holiston.
Hendy, E. B.,	Yale, 1822.	Milford.
Henry, A. G.,	L. I. Hosp. Col., 1874.	Horseneck.
Hibbard, Nathaniel L.,	Harvard, 1862.	Danversville.
Higgins, H. L.,	Bellefleur, 1867.	Newark.
Hill, F. A.,	Harvard, 1856.	East Killingly.
Hill, Chas. E.,	Harvard, 1878.	East Killingly.
Hill, T. H.,	Yale, 1862.	Williamsville.
Hill, John,	Yale, 1866.	Stonington.
Holmes, A. A.,	Harvard, 1868.	Bridgeport.
Holmes, George J.,	Albany, 1863.	New Britain.
Holmes, Wm. C.,	Col. Phys. and Surg., 1860.	Woodbury.
Holmes, W. H.,	Harvard, 1859.	Woodbury.
Holbrook, Lucius,	Univ. N. Y., 1868.	Thompson.
Horton, W. W.,	Univ. N. Y., 1878.	Enfield.
Hutchins, O. H.,	Yale, 1872.	New Haven.
Hughes, A. A.,	Yale, 1822.	Essex.
Hughes, H. W.,	Yale, 1826.	Putnam.
Hutchinson, Sarah W.,	Bethany, 1879.	Putnam.
Hussey, John,	Dartmouth, 1851.	Hartford.
Hunt, H. G.,	Col. Phys. and Surg., 1875.	Hartford.
Hunt, C. H.,	Yale, 1868.	Middleton.
Hunt, C. H.,	Yale, 1868.	Essex.
Hunt, John,	Yale, 1824.	Bridgeport.
Hunt, Stephen G.,	Dartmouth, 1849.	New Haven.
Hunt, Wm. M.,	Jefferson, 1856.	Hartford.
Hussey, O. J. D.,	L. I. Col. Hosp., 1875.	Hartford.
Hussey, Henry,	Col. Phys. and Surg., 1860.	Stamford.
Hussey, F. E.,	Jefferson, 1828.	Hartford.
Hutchinson, S. H.,	Yale, 1878.	Wilton.
Hunt, A. M.,	Col. Phys. and Surg., 1879.	Stamford.

Name.	Place and Date of Graduation.	B. G. Address.
Inglis, P. H.	Coll. Phys. and Surg., 1880.	Hartford.
Ives, Levi.	Yale, 1838.	New Haven.
Ives, Robert S.	Coll. Phys. and Surg., 1883.	New Haven.
Jacobs, Geo. F.	Univ. N. Y., 1861.	Hartford.
Jacobins, G. H.	L. I. Coll. Hosp., 1875.	Jewett City.
Jewett, J. W.	Univ. N. Y., 1861.	New Haven.
Johnson, D. D.	Univ. N. Y., 1853.	New Britain.
Johnson, M. M.	Univ. N. Y., 1877.	Hartford.
Johnson, S. C.	Conn. Med. Soc., 1825.	Seymour.
Johnson, F. E.	Univ. N. Y., 1818.	Middletown.
Johnson, Walter.	Coll. Phys. and Surg., 1879.	New Haven.
Johnson, W. H.	Jefferson, 1878.	Warrington.
Kate, J. Henry.	L. I. Coll., 1885.	Middletown.
Kennell, John C.	Coll. Phys. and Surg., 1875.	New York.
Kendall, Joshua C.	Coll. Phys. and Surg., 1875.	Seymour.
Kendler, J. N.	Harvard, 1875.	Middletown.
Kent, J. H.	Harvard, 1866.	Pittsford.
Kerckham, L. Y.	Univ. Vt., 1880.	Windsor.
Khaney, E. C.	N. Y. Med. Coll., 1828.	Norwich.
Knight, R. P.	Coll. Phys. and Surg., 1880.	Lakewood.
Knight, W. W.	Berkshire, 1875.	Sharon.
Knight, W. W.	Univ. N. Y., 1858.	Hartford.
Kuonshan, W. M.	Univ. Vt., 1886.	Chromwell.
Lacey, Wm. F.	Yale, 1844.	Danbury.
Lambert, B. L.	Univ. N. Y., 1883.	New Haven.
Lander, Robert.	Yale, 1871.	Bridgeport.
LaPierre, Julius.	Bellefleur, 1871.	Greenfield.
Lalor, Omar.	Victoria, Montreal, 1871.	Pittsford.
Lalour, A. A.	Bishops Coll., Montreal.	Greenfield.
Leighton, A. W.	Yale, 1873.	New Haven.
Leitchman, D. C.	Yale, 1865.	New Haven.
Leisner, Geo. E.	Bellefleur, 1883.	Danbury.
Leisner, E. H.	Conn. Med. Soc., 1866.	Danbury.
Levin, B. S.	Harvard, 1875.	New Haven.
Levin, G. F.	Yale, 1856.	Bridgeport.
Levin, G. P.	Yale, 1864.	Colchester.
Levin, Geo. P.	Yale, 1864.	Stratford.
Levin, John B.	Univ. N. Y., 1853.	Hartford.
Levin, Wm. A.	Harvard, 1871.	Sharon.
Levin, Wm. J.	Coll. Phys. and Surg., 1878.	Hartford.
Lindsay, C. A.	Yale, 1822.	New Haven.
Linsley, C. P.	Yale, 1878.	New Haven.
Linsley, O. F.	Yale, 1882.	Portland.
Litchford, W. A.	Coll. Phys. and Surg., 1864.	Newell.
Lockwood, Wm. E.	Yale, 1855.	New Haven.
Lock, Frank B.	Boston, 1884.	Middletown.
Lozelle, F. M.	Yale, 1885.	Bromfield.
Lutz, John F.	Coll. Phys. and Surg., 1878.	New Haven.
Lynch, Peter H.	Univ. Vermont, 1887.	Danbury.
Lyon, E. B.	Berkshire, 1892.	New Britain.
Lyon, Irving W.	Coll. Phys. and Surg., 1883.	Hartford.
Lyon, A. W.	Columbia, 1884.	Bridgeport.
Matheson, Mar.	Yale, 1878.	New Haven.
Mathewson, R. A.	Yale, 1865.	New London.

Name	Place and Date of Graduation	T. O. Address
Marcy, R. A.,	Univ. N. Y., 1882.	New Preston.
Markham, George E.,	Univ. N. Y., 1882.	Barnstable.
Marden, W. H.,		Meriden.
Martin, T. F.,	Univ. N. Y.,	Bridgeport.
Mason, J. E.,	Harvard, 1881.	Suffolk.
Mason, W. H.,	Buffalo, 1859.	Norwich.
Mather, Wm. H.,	Univ. N. Y.,	Suffield.
Matthewson, Edw.,	Coll. Phys. & Surg., N. Y., '79.	Unionville.
Matthewson, K. W.,	Coll. Phys. and Surg., 1883.	Durham.
May, A. E.,	Yale, Vermont, 1875.	Saugusack.
May, Jacob,	Med. Coll., 1823.	Bridgeport.
Mayer, Nathan,	Gloucester, 1857.	Hartford.
McClanchey, J. D.,	Jefferson, 1870.	Wallingford.
McKnight, E. J.,	Coll. Phys. and Surg., 1879.	East Hartford.
McDonald, E. W.,	Univ. N. Y., 1871.	Waterbury.
Mead, E. H.,	Univ. Michigan, 1878.	Sutton.
Miles, Geo. S.,	Coll. Phys. & Surg., Balt., '80.	Hartford.
Miler, W. S.,	Yale, 1873.	South Britain.
Moody, J. H.,	Univ. N. Y., 1882.	Deep River.
Morgan, Wm. D.,	Coll. Phys. and Surg., 1877.	Hartford.
Morrissey, J. J.,	Univ. N. Y., 1884.	Hartford.
Morse, E. T.,	Berlin, 1877.	East Hartford.
Munger, Eliza,	Yale, 1875.	Natick.
Munger, W. S.,	Yale, 1885.	Waterbury.
Munroe, H. W.,	Yale, 1889.	Bridgeport.
Murphy, M. D.,	Bellevue, 1884.	Middlebury.
Murray, C. S.,	Coll. Phys. and Surg., 1873.	Norwich.
Nelson, A. W.,	Harvard, 1881.	New London.
Newcomb, J. J.,	Yale, 1875.	Litchfield.
Newton, C. B.,	Yale, 1881.	Stafford Springs.
Nichols, I. J. M.,	Coll. Phys. and Surg., 1878.	Waterbury.
Nichols, N.,	N. Y. Med. Coll., 1857.	Meriden.
Nicoll, John,	Yale, 1854.	New Haven.
Noble, H. S.,	Coll. Phys. & Surg., N. Y., '71.	Middletown.
Noway, E. D.,	Coll. Phys. and Surg., 1871.	Strafford.
North, Alfred,	Coll. Phys. and Surg., 1868.	Waterbury.
North, J. H.,	L. I. Coll. Hosp., 1875.	Goshen.
Noyes, S. C.,	Univ. Pa., 1865.	Haddam.
Nye, Eliza B.,	Yale, 1828.	Middletown.
O'Connor, H. C.,	Coll. Phys. and Surg., 1872.	New Haven.
O'Flaherty, John,	Albany, 1864.	Hartford.
Olis, Frank N.,	Univ. Michigan, 1881.	East Woodstock.
Orrison, Jas.,	Yale, 1874.	Middletown.
Osborne, C. H.,	Yale, 1876.	Southport.
Osborn, Oliver T.,	Yale, 1884.	New Haven.
O'Sullivan, T. J.,	Univ. N. Y., 1878.	Berroughs.
Otto, H. S.,	Harvard, 1883.	Hartford.
Otto, S. D.,	Univ. N. Y., 1875.	Meriden.
Packard, Geo. B.,	Univ. Vermont, 1874.	Hartford.
Pallock, Lewis S.,	Univ. N. Y., 1854.	Norwich.
Pais, C. W.,	Harvard, 1879.	Hartford.
Park, Charles E.,	Yale, 1881.	New Haven.
Parker, J. S.,	Yale, 1875.	South Manchester.
Parker, T. R.,	Univ. N. Y., 1880.	Williamstown.
Parsons, Geo. L.,	L. I. Coll. Hosp., 1866.	Hartford.

Name.	Place and Date of Graduation.	P. O. Address.
Parsons, E. F.	Coll. Phys. and Surg., 1858.	Thompsonville.
Perk, A.	Univ. N. Y., 1875.	Norwich.
Perkins, W. S. C.	Coll. Phys. and Surg., 1860.	Norwich.
Phillips, A. N.	Coll. Phys. and Surg., 1862.	Bridgeport.
Philney, E.	Yale, 1855.	Yantic.
Porter, Henry.	Yale, 1854.	New Haven.
Potter, Samuel.	Coll. Phys. and Surg., 1881.	Stanford.
Potter, Chas. H.	Coll. Phys. and Surg., 1855.	Dorby.
Pratt, G. L.	Yale, 1838.	Waterbury.
Phin, Wm. L.	Coll. Phys. & Surg., N. Y., '71.	Torrington.
Potter, George L.	Jefferson, 1862.	Bridgeport.
Porter, G. L.	Chicago Med. Coll., 1882.	Hartford.
Porter, Isaac G.	Univ. Pa., 1822.	New London.
Powers, F.	Coll. Phys. and Surg., 1878.	Worcester.
Richardson, D. A.	Yale, 1880.	Morris.
Rising, H. M.	Yale, 1866.	South Glascobury.
Riley, S. G.	Univ. N. Y., 1846.	Rockville.
Roberts, Edward K.	Yale, 1880.	New Haven.
Roberts, G. R.	Coll. Phys. and Surg., 1878.	Columbia.
Robinson, Byron N.	Berkshire, 1866.	Columbia.
Robinson, Rufus.	Coll. Phys. & Surg., Balt., '81.	Norwich.
Robinson, Elmer.	L. I. Coll. Med., 1869.	Danburyville.
Rockwell, S. W.	Yale, 1855.	East Windsor Hill.
Rockwell, T. F.	Univ. N. Y., 1861.	Rockville.
Rodman, Charles S.	Coll. Phys. and Surg., 1868.	Worcester.
Rogers, Charles H.	Yale, 1842.	Central Village.
Rogers, Fred.	Univ. N. Y., 1860.	Williamstown.
Ross, E. K.	Univ. N. Y., 1870.	Hartford.
Ross, J. E.	Coll. Phys. and Surg., 1861.	Hartford.
Ridgely, A.	Univ. Penn. Acadia, 1865.	New Haven.
Russell, Gordon W.	Yale, 1827.	Hartford.
Russell, W. A.	Univ. N. Y., 1861.	Essex.
Russell, Wm. S.	Yale, 1860.	Wallingford.
Russell, T. H.	Yale, 1825.	New Haven.
Russell, Willa A.	Univ. N. Y., 1861.	Essex.
Sammel, David.	Victoria Coll., Montreal, 1866.	Williamstown.
Sampson, N. W.	Dartmouth, 1869.	Central Village.
Sarkis, Samark.	Univ. N. Y., 1861.	Danby.
Sardford, Edmund.	N. Y. Med. Coll., 1859.	West Cornwall.
Sardford, George W.	Berkshire, 1865.	Stamford.
Sardford, Leonard J.	Jefferson, 1864.	New Haven.
Sawyer, Frederick G.	L. I. Coll. Med., 1869.	Pondret.
Scott, Albert L.	Coll. Phys. and Surg., 1885.	Danbury.
Sees, C. A.	Univ. N. Y., 1862.	Pondret.
Shaffrey, C. W.	Yale, 1861.	Bridgeport.
Shelton, Gould A.	Yale, 1860.	Sutton.
Shepherd, George H.	Yale, 1860.	Hartford.
Shore, H. W.	Yale, 1851.	Woodbury.
Simmons, J. H.	Univ. N. Y., 1862.	Andover.
Simmons, Fred. T.	Mass. Med. School, 1861.	Hartford.
Smith, A. J.	Coll. Phys. and Surg., 1868.	Bridgeport.
Smith, A. P.		Sandy Hook.
Smith, E. W.	Medical Coll., 1862.	Windsor.
Smith, F. S.	Yale, 1862.	West Hartford.
Smith, H. B.	Yale, 1878.	Westville.

Name	Place and Date of Graduation	P. O. Address
Smith, Herbert E.	Univ. Pa., 1882.	New Haven.
Smith, N. P.	Col. Phys. and Surg.,	Norwich.
Smith, P. L.	Univ. N. Y., 1813.	Suffield Springs.
Smith, Oliver C.	L. I. Hosp. Coll., 1883.	Hartford.
Smith, E. W. M.	Col. Phys. & Surg., N. Y., '82.	Newtown.
Snare, E. E.	Jefferson, 1874.	Durham.
Sprague, S. L.	Harvard, 1854.	Norrick.
Stadley, C. K.	Univ. Pa., 1854.	Middletown.
Stanton, Geo. D.	Bellows, 1865.	Bozington.
Stanton, J. G.	Zavaria, 1873.	New London.
Stearns, G. W.	Bellows, N. Y., 1873.	Bozington.
Stearns, Henry P.	Yale, 1845.	Hartford.
Stearns, J. E.	Yale, 1881.	New Haven.
Stevens, John A.	Univ. N. Y., 1877.	Hartford.
Stevens, J. G.	Yale, 1864.	Meriden.
Stevens, J. H.	Col. Phys. and Surg., 1892.	Norfolk.
St. John, S. B.	Col. Phys. and Surg., 1879.	Hartford.
Sturtevant, Thomas.	Yale, 1836.	Seymour.
Steele, J. S.	Col. Phys. and Surg., 1865.	New Britain.
Stark, M.	Yale, 1844.	Hartford.
Stratton, August.	Univ. N. Y., 1868.	Danbury.
Stockard, R. L.	Albany, 1829.	Enfield.
Stout, W. P.	Col. Phys. & Surg., N. Y., '80.	Norwich.
Sturges, C. F.	Yale, 1851.	Boston.
Sturridge, Charles G.	Yale, 1879.	New Haven.
Swett, W. P.	Univ. Vermont, 1874.	Terryville.
Switzer, E. P.	Col. Phys. and Surg., 1889.	New Britain.
Swift, E. D.	Univ. N. Y., 1825.	Hartford.
Valois, Alvan.	Yale, 1831.	Hartford.
Vogel, G. M.	Albany, 1849.	Bridgeport.
Vorsey, Arthur J.	Yale, 1883.	Bridgeport.
Voor, Jas. L.	Col. Phys. & Surg., N. Y., '71.	Meriden.
Vander, Isaac K.	Yale, 1879.	New Haven.
Thomson, C. S.	Yale, 1822.	New Haven.
Thomson, W. H.	Yale, 1869.	New Haven.
Tiffany, H. H.	Columbia, Vt., 1857.	Hartford.
Tingler, W. K.	Bellows, 1868.	Norrick.
Tinker, H. R.	Univ. N. Y., 1866.	South Weymouth.
Todd, Wm. S.	Col. Phys. and Surg., 1869.	Middletown.
Town, A. W.	Medic. Univ. Canada, 1824.	Meriden.
Treadwell, H. F.	Yale, 1865.	New Britain.
Turner, Sylvester W.	Yale, 1845.	Cheshire.
Tuttle, F. B.	Yale, 1861.	Norwich.
Wainwright, H. A. M.	Col. Phys. and Surg., 1857.	Hartford.
Wakeman, H. H.	Yale, 1851.	Belling.
Wald, Paul.	Col. Phys. & Surg., Balt., '84.	Rockville.
Warren, A. S.	Dartmouth, 1841.	Westbrook.
Warren, J. A.	Col. Phys. and Surg., 1860.	Edington.
Watson, W. L.	L. I. Coll. Hosp., 1884.	Danbury.
Way, Henry L.	Univ. N. Y., 1840.	Bridg.
Weaver, C. H.	Col. Phys. and Surg., Hb.,	South Gloucester.
Webb, D. M.	Yale, 1878.	Meriden.
Webb, Geo. K.	Col. Phys. and Surg., 1878.	Hartford.
Webb, James.	Berkshire, 1851.	West Windsor.
Webb, W. O.	Yale, 1877.	Ansonia.
Welch, William W.	Yale, 1839.	Norfolk.

Name.	Place and Date of Graduation.	P. O. Address.
Wasson, Frank.	Coll. Phys. and Surg., 1852.	Farmington.
Washer, Frank H.	Yale Med. Coll., 1889.	New Haven.
White, C. F. S.	Yale, 1881.	New Haven.
White, F. O.	Yale, 1873.	New Haven.
White, Moses C.	Yale, 1874.	New Haven.
White, R. A.	Yale, 1882.	Stamford.
Whitson, F. H.	Dartmouth, 1871.	North Manchester.
Whittemore, P. H.	Bellows, N. Y., 1874.	New Haven.
Wildman, W. G.	Coll. Phys. and Surg., 1880.	Danbury.
Wile, William C.	Univ. N. Y., 1870.	Newtown.
Williams, A. L.	Jefferson, 1840.	Brookfield.
Williston, S. W.	Yale Med. Coll., 1880.	New Haven.
Wilson, F. M.	Harvard, 1875.	Bridgeport.
Wilson, S. A.	Yale, 1852.	Windsor.
Wilson, W. V.	Yale, 1867.	Wilmington.
Winchell, A. E.	Coll. Phys. and Surg., 1865.	New Haven.
Witter, John.	Yale, 1857.	Putnam.
Witter, William.	Yale, 1865.	Greensboro.
Woodruff, William.	Yale, 1826.	Thomaston.
Woolsey, Chas.	Univ. N. Y., 1878.	Tariffville.
Worlin, N. E.	Jefferson, 1873.	Bridgeport.
Worthington, A. R.	Yale, 1847.	Middle Haddam.
Wright, F. W.	Bellows, 1880.	New Haven.
Wright, T. O.	Univ. N. Y., 1865.	Plainville.
Wright, J. W.	Univ. N. Y., 1880.	Bridgeport.
Young, Francis J.	Yale, 1866.	Bridgeport.
Yount, Mary J. R.	Univ. Michigan, 1878.	Bridgeport.
Zack, Walter.	Wintzburg.	Brookfield.

Members electing any credit or additions in any part of their record will please inform the Secretary by correction in future lists.

PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
1887.

NINETY-SIXTH ANNUAL CONVENTION,

HELD AT

Hartford, May 25th and 26th.

NEW SERIES. Vol. III.—No. 4.
Published by the Society.

S. B. ST. JOHN, M.D., Secretary.
HARTFORD, CONN.

HARTFORD, CONN.
The Case, Lockwood & Burleigh Company, Printers.
1887.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by a special vote.

Next Annual Convention of the Connecticut Medical Society will be held in New Haven, May 23, 1888.

All communications intended for the Connecticut Medical Society must be addressed to S. B. St. John, M. D., Hartford, Conn.

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OFFICERS OF THE SOCIETY,
1887-1888.

PRESIDENT

FRANCIS BACON, New Haven.

Vice-President,

GEO. L. PORTER, Bridgeport.

VICE-PRESIDENTS, *ex officio*.

F. E. BECKWITH,
W. L. PLATT,
JNO. G. STANTON,
F. L. DICKINSON,
C. J. FOX,
W. S. TODD,
R. L. STRICKLAND,
C. A. SEARS.

TREASURER

E. P. SWASEY, New Britain.

SECRETARY.

S. B. ST. JOHN, Hartford.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.
GEO. R. SHEPHERD, F. E. BECKWITH, JAS. OLMSTED.

STANDING COMMITTEES.

Committee to Nominate Physicians to the Retreat for the Insane.

R. W. MATTHEWSON, M.D., L. HOLBROOK, M.D.,
R. S. GODWIN, M.D., R. W. GRESWOLD, M.D.,
P. V. BURNETT, M.D.

Committee of Publication.

S. B. ST. JOHN, M.D., *ex officio*
R. P. SWASEY, M.D., *ex officio*
H. S. FULLER, M.D.

Committee of Arrangements.

WM. H. CARMALT, M.D., *Auxiliary Chairman.*
JAS. K. THACHER, M.D.,
MAX MAILHOUSE, M.D.

Disputator.

WM. H. CARMALT, M.D.

Alternator.

R. M. GRESWOLD, M.D.

PROCEEDINGS

CONNECTICUT MEDICAL SOCIETY—NINETY- SIXTH ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in the County Court-House, Hartford, at 3 p. m., Wednesday, May 23, 1887.

The President, Dr. T. M. Hills of Willimantic, called the Convention to order, and appointed Dr. W. A. Lewis and Dr. S. B. St. John as the committee to examine the credentials of the elected Fellows. The committee reported the Fellows elected whose names are presented. The list was accepted and the committee discharged. The following is the list as presented:

LIST OF FELLOWS, *in office*.

President.

T. M. HILLS, M.D.

Vice-President.

FRANCIS BACON, M.D.

*Vice-Presidents, *ex officio*.*

F. E. BECKWITH, M.D.

* W. L. PLATT, M.D.

JNO. G. STANTON, M.D.

* F. L. DICKINSON, M.D.

C. J. FOX, M.D.

* W. S. YARD, M.D.

R. L. STICKLAND, M.D.

C. A. SEARS, M.D.

Treasurer.

E. P. SWANCK, M.D.

Secretary.

S. H. ST. JOHN, M.D.

Committee on Matters of Professional Interest to the State.

A. W. NICHOLS.

E. K. BART.

FELLOWS ELECTED IN 1887.

*Hartford County.*A. E. Abrams,
P. H. Ingalls.P. M. Hastings,
C. W. Page.

G. F. Lewis.

*New Haven County.*Max Mallhouse,
H. B. Goodjest.M. A. Cronin,
G. Eliot.

O. J. D. Hughes.

*New London County.*L. B. Almy,
F. N. Braman.A. Peck,
A. T. Douglas.

Geo. W. Harris.

*Fairfield County.*Frederick Powers,
Seth Hill.C. C. Godfrey,
A. E. Barber.

Wm. C. Barke.*

*Windham County.*T. R. Parker,
L. Holbeck.Riemz Robinson,
W. A. Lewis.

H. L. Hammond.

Hillsdale County.

J. P. Cabel,
J. N. Karistott,

G. W. Burke, †
D. A. Cleveland,

A. W. Bell.*

Litchfield County.

R. S. Goodwin,
J. J. Averill,

W. J. Beach,*
C. L. Blake,

J. W. Bidwell.*

Tolland County.

W. N. Clark,

S. G. Risley,

C. F. Sumner.

PRESIDENT'S ADDRESS TO THE FELLOWS.

Gentlemen and Fellows of the Connecticut Medical Society:

We meet to-day to represent, as our predecessors have for ninety-six years, the county societies of our State, to consider such matters as they refer to us, to propose and promote such measures as shall advance scholarship, fellowship, and harmony in the profession, and the interests of humanity in the State.

I feel that it is a matter of congratulation that we have so nearly completed the cycle of one hundred years of existence, without material change from the methods of society government adopted by the founders of the society. I appreciate the unexpected honor that the society has conferred upon me, and feel the responsibility of presiding at your deliberations. I regret the limited time that the demands of the small part of the public I serve have allowed me to devote to the duties of the office; I crave your forbearance and assistance.

It is my duty to present such matters for your consideration as may require action at the present time.

The Committee on Unfinished Business will have no business to consider, unless the amendment to by-laws, proposed by Dr. Searcy in 1885, reported favorably on by the Committee on

* Absent.

† Present by substitute, R. Baker.

Unfinished Business last year and laid on the table, is referred to them.

The Committee on County Resolves will have several resolutions to act upon. One of these suggests such a revision of the charter and by-laws as shall substitute therefor an organic law similar to that of the Massachusetts Medical Society. Others declare that any further agitation of the subject of proposed charter is detrimental to the interests of the society.

Fairfield County Medical Society sends a resolution favoring an increased representation.

Allow me to recall some facts in the history of our society. The forty-nine incorporators were six years in securing the act of incorporation, to wit: from 1788 to 1792: time enough, surely, to have considered and matured a good and efficient form of organization. The original charter ordered the election of the same number of Fellows from each county to form a representative governing body, as are now elected for the same purpose by the same county societies, or primaries. At first "the president, vice-president, treasurer, and secretary, and such other officers as they may think proper" to elect, were selected from the body of Fellows, but in 1787 a further addition to the act of incorporation was secured, allowing the election of these officers from the society at large. In 1842, 1850, and 1851, there was a three years' effort to revise the charter and increase the number of Fellows, resulting in three indefinite postponements. In the revision of 1878 the Committee on Matters of Professional Interest, and the presidents of the county societies, were made Fellows *ex officio*.

The late question of proposed new charter, involving an overthrow of the old and cherished system of the society's government, having been discussed by one special and two annual meetings, was disposed of by a vote of twenty-five against to eight in favor at the last meeting.

There is so clearly a great similarity in the practical working of the Massachusetts Medical and the Connecticut Medical Societies, with some very decided advantages of the Connecticut society over that of Massachusetts, that this question of new charter should not again be allowed to disturb us, and the claim of superiority of the Massachusetts charter and by-laws over those of Connecticut should not be used as a pretext for a change.

The resolution from the Fairfield County Medical Society may

bring up the subject of increased representation. Individually I am satisfied with our present number of Fellows, fifty-three, but I am willing to accept and endorse an increase in the number that does not throw the control of the State Society into the three larger county societies.

There is a matter in which I think we might copy after the flourishing Pharmaceutical Association of our State. I refer to their Committee on Legislation. Our society has, from its organization, lacked influence and control in our legislative bodies. As a profession we suffer injustices that cry to Heaven; we write under them, but are unable to get relief from our Legislature. The public demands much legislation, but should be protected from very much concerning which the physician is best qualified to give an intelligent and reliable opinion. We should have an interest in, and an influence for or against, all proposed legislation—

I. That will affect us directly;

II. That will affect the public institutions of the State that we have labored to establish and foster;

III. All that comes within the scope of our relations and duties to the public.

I would suggest that such a committee be a standing committee; that it consist of five members; that they be selected by the Nominating Committee, with the most careful consideration of their qualifications for the duty to be performed, and, perhaps, their accessibility to the Capitol. It would be for the interest of the society that when this committee is well filled, that its members should be re-nominated and re-elected as long as they serve us acceptably.

Circulars have been received by the treasurer and myself from the chairman of the Finance Committee of the Ninth International Medical Congress, "inviting our attention to the importance of the members of our society, either individually or collectively, contributing to the funds of the congress, to enable its officers to meet its expenses in a manner becoming this great nation, and to reciprocate the courtesies so liberally bestowed upon delegates from the United States to previous meetings of the congress in Europe." While I feel sure it would be a pleasure to respond liberally to this call, as a *society*, we are not in a condition to do so, being, as our Treasurer's report will show, slightly in debt. It remains, then, for

us individually to do something to sustain the credit of the medical profession in our State, either by subscription or the payment of ten dollars—the membership fee; and I would suggest that some effort be made to secure as large a membership from our State as possible.

The following communication has been received from the State Medical Society of Wisconsin:

STATE MEDICAL SOCIETY OF WISCONSIN,
Secretary's Office, Appleton, Wis., Dec., 1886.

DEAR SIR,—At the last meeting of the State Medical Society of Wisconsin, held in Madison, in June last, the following resolutions with reference to the immigration of the defective classes, were adopted, and a copy of the same is respectfully forwarded to you in accordance therewith.

WHEREAS, It is known that large numbers of foreigners belonging to the defective classes, such as paupers, criminals, the insane, deaf-mutes, blind, idiots, and hypes are annually shipped to this country from other nations; that insanity, pauperism, and crime are increasing rapidly in this country; that the chief cause of this increase is due to the large numbers of defectives found among the "foreign born"; that the foreign-born element constitutes but one-eighth of our population; yet this element furnishes one-third of our insane, one-third of our paupers, and one-third of our criminals, and

WHEREAS, The present national law is not sufficiently potent to guard against the indiscriminate immigration, and

WHEREAS, The individual states and territories cannot act independently, Therefore, be it

Resolved, That the President of this Society be, and is hereby empowered to appoint at this season a committee of three of its members to act in the name of the Wisconsin State Medical Society in presenting a memorial to the next legislature with urgent request that our legislature take immediate steps to place the matter properly before congress, which body alone must take final action; and

Resolved, That a copy of these resolutions be presented to each of our United States Senators, to each of our Congressmen, and to the President of each State Medical Society in the United States.

The committee appointed under the above resolution consists of Drs. B. M. Wigginton, Clark Ogden, and Kent Hoegh.

Very respectfully,

S. C. JOHNSON, M.D., *President*.

J. T. REEVE, M.D., *Secretary*.

The President then announced the following committees:

On Unpublished Business.

A. Peck, M.D., D. A. Cleveland, M.D.,
H. A. Cressin, M.D.

On Docket Business.

H. L. Hammond, M.D., S. G. Boley, M.D.,
C. L. Blako, M.D.

On Business.

S. B. St. John, M.D., *ex officio*, P. H. Ingalls, M.D.,
P. M. Hastings, M.D.

On Honorary Members and Degrees.

C. C. Godfrey, M.D., F. E. Beckwith, M.D.,
F. N. Britton, M.D.

Auditing Committee.

G. W. Harris, M.D., J. M. Keniston, M.D.

Committee to Nominate Foreigners.

C. A. Sears, M.D., E. L. Dickinson, M.D.,

The Treasurer, Dr. E. P. Sweeney, then submitted the following report, which was referred to the Auditing Committee.

REPORT OF TREASURER FOR THE YEAR ENDING MAY, 1887.

Balance from old account.	\$551.22
Received during fiscal year,	812.69
Total	\$1,363.91
Expenditures,	604.79
Balance in treasury, May, 1887,	759.12
Increase of receipts over 1885,	267.89
Reduction of expenditures,	161.11
Excess of receipts over expenditures,	267.94
Increase of balance over last year,	116.62

Amount due on taxes for 1885.

Tolland County,		Nothing.
Hartford County,		Nothing.
New Haven County—		
Reg. tax, 25 — \$59.40, less 10%,	\$45.40	
Spec. tax, 112 at \$1.30 — \$145.60, less 10%,	52.40—	93.40
Fairfield County—		
Reg. tax, 26 — \$52.90, less 10%,	\$46.30	
Spec. tax, 22 at \$1.00 — \$22.00, less 10%,	19.80—	66.10
New London County, reg. tax, 4 — \$8.00, less 10%,		7.20
Litchfield County—		
Reg. tax, 14 — \$28.00, less 10%,	\$25.20	
Spec. tax, 7 at \$1.25 — \$8.75, less 10%,	7.88—	23.08
Middlesex County—		
Spec. tax, 13 at \$1.25 — \$16.25, less 10%,		14.63
Windham County—		
Reg. tax, 7 — \$14.40, less 10%,	\$12.90	
Spec. tax, 7 at \$1.25 — \$8.75, less 10%,	7.88—	20.48
Total,		\$237.29
Total due on regular tax, less 10 per cent.,		111.60
Total due on special tax, less 10 per cent.,		125.79
		\$237.39
Increase of regular taxes due over last year,		\$5.40

The Auditing Committee subsequently reported that they had examined the vouchers and found the report correct, and it was accepted.

It was voted that a committee of three be appointed by the President to consider the recommendations of the President in his address, and report any advisable action thereon at the next meeting.

The President subsequently appointed as this committee: Drs. A. K. Abrams, P. H. Ingalls, and H. L. Hammond.

Voted, That the amendment to the by-laws, regarding dropping from the list the names of members in arrears, which was introduced by Dr. Swavey at the meeting in 1883, and upon which no action was taken last year, be referred to the Committee on Unfinished Business.

This committee subsequently recommended the adoption of the following amendment, and it was so ordered:

"The clerks of the county associations shall drop from the roll of membership the names of all members who have refused or neglected for two or more years to pay their taxes due the society."

The following resolutions received from various county associations were read by the Secretary, and referred to the Committee on County Resolves.

From Litchfield County :

At the annual meeting of the Litchfield County Medical Society held on the 12th day of October, 1886, the following resolution was passed:

Resolved, That the Litchfield County Medical Society desires to express their disapproval of the constant agitation of the question of amending the constitution of the Connecticut State Medical Society.

Resolved, That they hereby request the Fellows from this society to use their influence to prevent such agitation, both on account of its deleterious effect upon the society and upon the community, and that the society be instructed to transmit a copy of these resolutions to the Secretary of the State society.

A true copy,

W. J. FORD,

Secretary Litchfield Medical Society.

WASHINGTON, CONN., January 27, 1887.

From Tolland County :

TOLLAND, April 26, 1887.

DEAR DOCTOR, — At the annual meeting of the Tolland County Medical Society, held last week, the following resolution was passed:

Resolved, That in our opinion further discussion of the charter question by the Fellows of the State Medical Society at its coming session, would be undesirable and prejudicial to the best interest of the society. Therefore,

Resolved, That the Fellows, elected this day by this society, be requested to use their best efforts to prevent the further discussion of what appears to us an imaginary grievance.

Respectfully yours,

W. H. CLARK,

From Hartford County:

To Dr. S. B. ST. JOHN, *Secretary Connecticut State Medical Society:*

At the annual meeting of the Hartford County Medical Society, held April 27, 1887, the following resolutions were passed:

Resolved, That the Hartford County Medical Society desires to express its disapproval of the constant agitation of the question of amending the charter of the Connecticut State Medical Society.

Resolved, That we hereby request the Fellows from this society to use their influence to prevent such agitation on account of its deleterious effect upon the interests of the society.

W. W. KNIGHT, M.D.,

Clerk Hartford County Medical Society.

HARTFORD, May 18, 1887.

From Windham County:

Resolutions adopted by the Windham County Medical Society at the annual meeting on the 29th of April, 1887.

WHEREAS, It appears that a majority of the members of the Connecticut Medical Society regard its present charter and by-laws as inadequate to its wants, and believe that the best interests of the society demand a revision of the same; and

WHEREAS, We sympathize with these views, believing such a revision practicable as will enhance the efficiency of our organization by securing greater individual interest and sense of personal responsibility among its members; therefore:

Resolved, That while we are not disposed to urge the adoption of changes based upon our special preferences and predilections, but cheerfully to rest the matter in the decision of a majority of the members of the Society, intelligently and legally expressed; yet we would take the liberty to suggest that in our opinion such a revision of our present charter and by-laws as should substitute therefor an organic law similar to that of the Massachusetts Medical Society, modified, perhaps, in some of its provisions to suit our special requirements, would promote the usefulness of our organization, rendering it more than hitherto the efficient exponent of the thought and aspirations of the profession in our State.

Resolved, That the Fellows representing us in the Ninety-sixth Annual Convention of the Connecticut Medical Society be requested to present to the President and Fellows on that occasion a copy of these resolutions as the expression of our views, and to take such action in the premises as may then be indicated in furtherance of the same.

Attest: A true copy.

CHAS. N. ALLEN, M.D.,
Clerk Windham County.

From New Haven County:

WHEREAS, It appears from the report of the committee appointed to canvass the vote of the society in relation to the adoption of a proposed new charter, that a majority of the members of the Connecticut Medical Society favor a revision of the present charter and the substitution thereof of one more in accordance with its present needs; and

WHEREAS, They believe that the time has fully come when such revision ought to be made, and it is their conviction that the interests of the society will be best served by abolishing the privileges and restrictions which have either been conferred or imposed by past legislation upon any of its members; therefore be it

Resolved, That it is the opinion of this meeting a revision of the charter of our State Society ought to be had at the earliest practicable moment, and we respectfully request the President and Fellows to take such action

at their next annual meeting as will secure such results, and to this end we request the effective co-operation of the Fellows from the county.

DR. CHAS. E. PARK,
Clerk New Haven County.

From Fairfield County:

MR. PRESIDENT, — Your committee would report:

The Fellows of the Connecticut Medical Society are divided into two classes:

I. Ex officio, comprising —

1. President,	-	-	1
2. Vice-President, State,	-	-	1
3. Vice-Presidents, County Societies,	-	-	8
4. Committee on Matters of Professional Interest,	-	-	3
5. Secretary,	-	-	1
6. Treasurer,	-	-	1
Ex officio total,			15

II. Elective Fellows, from —

1. Tolland County,			3
2. The other seven Counties, five each,			35
Elective total,			38
Ex officio and Elective total,			53

Now making a representation in the conventions of the society of one to about every nine and two fifths members.

The constitution of the Massachusetts Medical Society are elected by the various district societies in the ratio of one to every eight Fellows.

Your committee would respectfully recommend that the present number of Fellows be increased, so as to enlarge the conventions and to enable each member of the society to more frequently attend in an official capacity; and therefore propose the following plan, which gives a larger proportionate representation to the Society, notwithstanding it divides the representation in favor of the less populous counties. We would recommend that each county, irrespective of size, be entitled to five Fellows for the first twenty-five or a less number of members of the county societies, and to one additional Fellow for each twenty-five additional members over twenty-five or fraction of twenty-five, the *ex officio* Fellows to remain as at present.

The convention would then consist of—

- I. *Ex officio* Fellows, 15; and
- II. *Resident* Fellows, as follows:

County.	No. Members.	Fellows: Pres. No.	Fellows: Increase.	Total No.	Ratio of Fellows to Members.
1. Hartford,	118	5	4	9	1 to 12½
2. New Haven,	196	5	5	10	1 " 19½
3. New London,	45	5	1	6	1 " 7½
4. Fairfield,	79	5	3	8	1 " 9½
5. Windham,	33	5	1	6	1 " 5½
6. Litchfield,	55	5	1	6	1 " 9½
7. Middlesex,	39	5	1	6	1 " 6½
8. Tolland,	19	3	3	6	1 " 3½
Total Elective,	360	28	18	56	1 " 8½
Total Ex Officio,				13	1 " 27½
Total,				71	1 " 7½

Respectfully submitted,

DR. G. L. PORTER,

DR. W. C. WILE (absent),*

DR. W. H. DONALDSON,

Committee on Charge of Medical Representation to State Society.

Dr. H. A. Carrington, chairman of the committee appointed last year to confer with representatives of the Homoeopathic and Eclectic Societies in reference to some practical action looking to the adoption of some such act as that recommended by the American Medical Association to regulate the practice of medicine, reported as follows:

To the President and Fellows of the Connecticut Medical Society:

Your committee, appointed to confer with the Homoeopathic and Eclectic Societies in regard to legislation in the interest of the profession, respectfully report:

That two conferences were held with the committee from each of the above societies, and after discussion of the various plans, a draft of an act on which final agreement was had was presented to the Legislature, but at so late a day in the session that it was found impracticable to carry it through to final action, and so it was laid over to the next session. While this act will not meet the wishes of all, and while the committee do not regard it ideally perfect, still it is believed that it contains all that it would

* No longer a member, having removed from the State.

be practicable to attempt to carry into effect). A copy of the law proposed is appended.*

(Signed,) H. A. CARHINGTON, M.D.,
W. A. WAINWRIGHT, M.D.

It was voted that the report be received as a report of progress, and the same committee be continued for another year.

A proposition to publish the list of officers of the Society in the *Journal of the American Medical Association*, was laid upon the table.

A circular from W. R. Duntlison, chairman of the Finance Committee of the Ninth International Congress, asking for financial help from the society, was read by the Secretary.

There being no funds in the Treasury above what would be needed for the current expenses of the ensuing year, it was Voted, "That a committee of one from each county be appointed by the President to solicit subscriptions in aid of the Ninth International Medical Congress."

The President subsequently appointed as this committee:

DR. E. P. SWASEY,	MAX MAILHOUSE,	A. E. BARBER,
J. B. DERRICKSON,	S. G. RALEY,	F. N. BRIMAN,
L. HOLBROOK, and D. A. CLEVELAND.		

It having been found necessary, as there were no essays this year, to have the committees appointed *before* the session, in order that the Business Committee might prepare a programme to send out with the announcements of the convention, thereby infringing upon a by-law of the society, it was voted that the action of the President in so doing be endorsed.

The Nominating Committee consisting of

DR. A. E. ABLENS, Hartford County,
MAX MAILHOUSE, New Haven County,
L. B. ALBY, New London County,
A. E. BARBER, Fairfield County,
L. HOLBROOK, Windham County,
J. F. CALEY, Middlesex County,
R. S. GOODWIN, Litchfield County,
W. N. CLARK, Tolland County,

then brought in their report as follows:

*See Appendix A.

President, Dr. Francis Bacon of New Haven.

Vice-President, Dr. Geo. L. Porter of Bridgeport.

Secretary, Dr. S. B. St. John of Hartford.

Treasurer, Dr. E. P. Stacey of New Britain.

Committee on Matters of Professional Interest.

Geo. R. Shepley, M.D., F. E. Beckwith, M.D., Jas. Husted, M.D.

Committee to Nominate Physicians to the Retreat for the Insane.

B. W. Griswold, M.D., P. V. Barnet, M.D.

Committee of Publication.

H. S. Fuller, M.D., *Secretary and Treasurer (ex officio).*

Committee of Arrangements.

Wm. H. Carralt, M.D., J. K. Thacher, M.D., Max Mailhous, M.D.

Disruptor.

W. H. Carralt, M.D.

Alternates.

B. M. Griswold, M.D.

Delegates to American Medical Association.

Drs. Lewis Barnes of Oxford, Alfred North of Waterbury,
 W. L. Barber of Waterbury, C. J. Fox of Willimantic,
 A. W. Nelson of New London, T. M. Hills of Willimantic,
 J. M. Kossien of Middletown, William Deming of Litchfield,
 M. C. O'Connor of N. Haven, P. H. Ingalls of Hartford.

Delegates to Maine Medical Association.

Dr. Rufus Baker, Dr. S. Nickerson.

Delegates to New Hampshire Medical Association.

Dr. W. L. Platt, Dr. L. S. Paddock.

Delegates to Vermont Medical Association.

Dr. G. B. Packard, Dr. H. G. Howe.

Delegates to Massachusetts Medical Association.

Dr. L. Hollbrook, Dr. W. T. Brown.

Delegates to Rhode Island Medical Association.

Dr. P. Cassidy, Dr. G. F. Lewis.

Delegates to New Jersey Medical Association.

Dr. C. C. Godfrey, Dr. H. P. Gail,

Delegates to New York Medical Association.

Dr. Wm. G. Brownson, Dr. H. A. Carrington.

The Secretary was instructed to cast the ballot of the society for the foregoing officers, who were declared elected.

The following amendments to the by-laws were proposed, and under the rules, lie over till next year for action.

By Dr. Douglas:

Resolved, "That the by-law enacted in 1884, by which the office of Secretary was made permanent, be repealed."

Resolved, "That the last two words of Section II, Chapter V, be stricken out."

By Dr. Ingalls:

Resolved, "That Chapter III, Section 1, of the by-laws be amended so as to read: "There shall be an annual meeting of the President and Fellows of the Connecticut Medical Society preceding the annual convention of the society, and in the same city where the convention is to be held."

By Dr. Wright:

Resolved, "That no question shall come before the society for vote unless it shall previously have been passed by the Fellows".

The Committee on Honorary Degrees and Membership, reported the name of Prof. Jao. Call Dalton to be brought before the Fellows next year for election as an honorary member.

Voted, That a special session be held this evening to listen to a paper by Dr. E. W. Cushing of Boston, upon "Ulcerations of the Os Uteri."

Dr. W. R. Bartlett of North Guilford, having tendered his resignation by reason of ill health, it was voted that it be accepted.

The names of Scott R. Baker, E. T. Cornwall, and J. J. M. Neville from New Haven County, and E. D. Nooney and R. L. Bohanan of Fairfield County, having been presented by their respective county associations for expulsion by reason of persistent non-payment of taxes, it was voted that they be expelled.

The Connecticut Pharmaceutical Association having sent an invitation to the Connecticut Medical Society to appoint delegates to their next annual meeting, it was voted that the invitation be accepted, and that the President appoint three delegates to attend the meeting at Willimantic (first Tuesday in February, 1885).

The President subsequently appointed as this committee:

Dr. L. B. Almy, T. R. Parker,
W. A. Lewis.

Voted, That the annual tax of two dollars, payable on and after June 1, 1887, be assessed on each member of the society; also that 500 copies of the Proceedings be published.

The Committee on County Resolves then brought in their report, as follows:

The Committee on County Resolves would respectfully report, that they have considered the resolutions presented by New Haven, Hartford, Fairfield, Litchfield, Windham, and Tolland County Medical Societies, to this Convention.

We beg leave to report *favorably* on the resolutions presented by the following counties, to wit: Hartford, Litchfield, and Tolland, to the effect, that further discussion of the question of a change of charter is prejudicial to the best interests of the Society.

And we further report *unfavorably* on the resolutions from New Haven, Fairfield, and Windham Counties, which resolutions suggest further discussion on the change of charter.

W. L. HAMMOND,
S. G. RISLEY,
C. L. BLAKE

Voted, That the report of the committee be not accepted.

Dr. Wright moved that the alteration of the charter as suggested by the Fairfield County Society, so as to have five members at least for each county and one additional member for every twenty-five members above the first twenty-five, be adopted.

In the discussion which ensued, Drs. Douglas, R. M. Griswold, Holbrook, and Carrington, spoke strongly in favor of a change in the charter. Drs. Cleveland and Carnall took the opposite

ground, and Dr. Carnalt read the following letter, written by Dr. Williams of Boston, an ex-President of the Massachusetts Medical Society, which is of interest as tending to settle a question which has been often brought up in this discussion of a change of our charter, viz.: the question whether under our present system the members of the Connecticut Medical Society have any less privileges or fewer rights than have the members of the Massachusetts Medical Society.

15 ARLINGTON ST.,

Boston, May 7, 1887.

DEAR DOCTOR,—I have carefully compared the charter and by-laws of the Connecticut Medical Society with those of the Massachusetts Medical Society. The only important apparent difference seems to be in the proviso that in the Connecticut Medical Society, the President and Fellows have power to make and alter the by-laws; whereas, in the Massachusetts Medical Society this power is so far conjoint that by-laws, after having been adopted or modified by the council, are acted on by the society.

This difference is of little importance; the actual exercise of power being confided almost wholly, in both societies, to a minority of the members, elected for that purpose by the county or district societies; in Connecticut, designated the "President and Fellows;" in Massachusetts, the "Council."

In both societies, every member is the equal of every other in being eligible to every office, with the exception that in Massachusetts none but a Councilor can be elected President of the society.

In neither of the two societies can the members vote directly for the officers of the society; the election being made, in Connecticut by the President and Fellows, in Massachusetts by the Council. The members of Connecticut society have, however, an advantage in the right to be present at the meetings of the President and Fellows; and, if so disposed, to make nominations for officers, after the presentation of the list proposed by the nominating committee, which committee is made up, as in Massachusetts, of one member elected by each branch society; and, furthermore, in the right to perform all the duties of Fellows except voting. These privileges do not exist in the Massachusetts Medical Society, where, moreover, only Councilors are eligible for election on the nominating committee for officers.

The share actually exercised by the members in the management of the society is larger in Connecticut than in Massachusetts. The voting body (President and Fellows) is made up of four executive officers, three of a committee on matters of professional interest, eight Vice Presidents, or ex-off, and thirty-eight Fellows elected by the county societies.

Thus constituted, this body bears about the same proportion to the entire membership of the society as in Massachusetts (where one or eight members may be Councilors). But whereas in Massachusetts no substitution among the electors is provided for, in Connecticut each of the thirty-

eight Fellows may be represented by an alternate, and thus nearly the whole number of Fellows would often vote at a meeting of the President and Fellows; while in Massachusetts less than three-fifths of the Councilors are usually present at the meeting for elections; and only about one-half at the other meetings, many being necessarily detained at their homes. Moreover the Vice Presidents *ex-officio* are entitled to vote in the Connecticut Board of President and Fellows, but not so in the Massachusetts Council.

Except these presidents of district societies, who are *ex-officio* vice-presidents of the Massachusetts Medical Society, all the officers of the present society (except the board of censors chosen in each district) are elected, and vacancies are filled by the Council; and all the important committees are appointed by the council on the nomination of the President, who, likewise, fills vacancies in the committee on trials and the committee on ethics and discipline, and designates members of boards of trial. As a rule, no business is done at the annual meeting of the Massachusetts Medical Society beyond receiving the reports of the Treasurer and Secretary. If a sentence has been decreed by a board of trial it is confirmed without debate by the society. If an appeal has been made to, or if a new trial has been refused by the Council.

Amendments of by-laws may be proposed at the annual meeting, but can neither be considered nor acted on except at an adjourned annual meeting of the society, at some subsequent date, when, after having been approved by the council, they may be acted on by the society. This arrangement was long since adopted by the society to obviate the interruption of its scientific work by discussions of proposed alterations of its by-laws; which formerly sometimes consumed nearly the whole time of the annual meeting. It has been found not only convenient, but essential on account of the large membership of the Massachusetts Medical Society, to confer executive powers upon its less numerous Council; which, elected from year to year by the district societies, may be considered as fairly, as well as largely, representing the entire body of the members.

HENRY W. WILLIAMS.

Dr. R. W. Griswold moved to lay the motion on the table.

So ordered.

Dr. Griswold then offered the following:

Resolved, That a committee of one from each county be appointed by the President to report to the next annual convention upon the matter of a revision of the Charter with an act to that effect if deemed advisable.

This was subsequently amended by having two from each county instead of one, and having them appointed by the county associations, and in this shape the motion was passed, it being understood that two were to be appointed from each county, in order that both sides could be represented.

Adjourned till 7.30 P. M.

S. B. ST. JOHN, Secretary.

THE ANNUAL CONVENTION.

THURSDAY, May 24, 1887.

The second day's exercises began at 9.45 a. m., the delay being caused by the absence of the President, who was detained at his home by illness. The Vice-President being also absent, Dr. R. L. Strickland, vice-president *ex officio*, from Hartford County, was selected to preside.

The Secretary made his report as follows:

SECRETARY'S REPORT.

From all counties we have an addition to our ranks of twenty-seven members. New Haven contributes 7, Fairfield 5, Windham 4, Hartford 6, Litchfield 3, New London 1, and Middlesex 1.

Death has removed the same number as during the preceding year. Of the nine who are gone, 3 belonged to New Haven county, 3 to New London, and 1 each to Fairfield, Litchfield, and Middlesex. Of these, three at most can be classed with those who have attained to fullness of years, and one was quite a recent graduate. The mortuary list includes one of the ex-presidents of the society, Dr. Carlson of Norwich.

The list is as follows: Drs. Wm. C. Bennett, C. M. Carleton, E. F. Coates, J. W. Dart, G. B. Farnam, T. B. Gibbons, W. O. Ayres, A. A. Bough, and Jas. Welch.

Seven removals from the State, and 8 resignations and expulsions leave us with a net gain of 3 members, and a total membership of 503.

The following is a list of new members, with date and place of graduation:

Herbert S. Reynolds, Clinton, 1881, University of New York.

Henry L. Swain, New Haven, 1884, Yale.

Geo. T. Doolittle, New Haven, 1884, Yale.

Jas. W. Sears, New Haven, 1885, Yale.

Thos. G. Lee, New Haven, 1886, University of Pennsylvania.

Carl E. Munger, Waterbury, 1883, College of Physicians and Surgeons, New York.

Robert Hungerford, Seymour, 1885, College of Physicians and Surgeons, New York.

- Chas. H. Brockett, New Haven, 1886, Yale.
Chas. B. Green, New London, 1886, Harvard.
Frederick H. Dart, Niatic, 1883, College of Physicians and Surgeons, New York.
Wm. F. French, Noroton, 1884, University of New York.
E. E. Lyon, Bethel, 1885, College of Physicians and Surgeons, New York.
J. C. Lynch, Bridgeport, 1886, University of New York.
G. Talbridge Brown, Sandy Hook, 1878, University of New York.
Willis E. Wood, Ridgefield, 1884, College of Physicians and Surgeons, New York.
Jas. J. Averill, Falls Village, 1868, Yale.
Geo. H. Knight, Lakewood, 1886, College of Physicians and Surgeons, New York.
D. Chamber Brown, Washington, 1884, Yale.
Gideon C. Segar, Hartford, 1882, College of Physicians and Surgeons, New York.
G. C. Bailey, Hartford, 1886, University of New York.
Frank G. Burnett, South Windsor, 1886, University of New York.
M. T. Newton, Suffield, 1851, Yale.
Chas. A. Giffin, Berlin, 1883, University of New York.
Bernard C. Deane, New Britain, 1885, University of New York.
Wm. J. Connor, Willimantic, 1885, University of New York.
Everett D. Card, Willimantic, 1881, Clark University.
Napoleon Mads, Danielsonville, 1879, Victoria College, Montreal.
F. A. Morrill, Putnam, 1888, Long Island Medical College.

The annual address by the President, Dr. T. M. Hills of Willimantic, subject: "The Town, its Poor and the Physician's Legal and Human Relations to them," was omitted by reason of the absence of the President.

The Committee on Matters of Professional Interest then submitted their report. (See report further on.)

Dr. W. H. O. Taylor presented his credentials as delegate from the New Jersey Medical Society, and was introduced by the President. He responded in a brief speech.

Dr. A. T. Douglas reported, as delegate to the meeting of the New York Medical Association, that he attended the meeting, and found it unusually profitable and interesting.

Dr. Abrams of Collingville, read a dissertation on "The Treat-

ment of Diseases of the Ear by the General Practitioner" (The paper and discussion are reported elsewhere.)

A discussion upon Dr. Gushing's paper, read the previous evening, was then participated in by Drs. Carnalt, Storms, Gushing, Avery, Nelson and Ingalls.

Under the head of Miscellaneous Business, Dr. St. John introduced a subject which he said he approached with extreme reluctance. Last autumn a private circular, subscribed by a number of this society, was published and sent throughout the State to members of this society, containing statements which were insulting to the twenty-five Fellows who last year voted to sustain the present form of organization, charging them with using their temporary power to override the will of the majority of the society, insulting to the Publication Committee, whom it charged with refusal to print in the "Proceedings" a fair statement of facts in their relation to the question of proposed changes in the charter, and insulting to the Secretary, whom it charged not only with neglect of duty and disobedience of orders, but with committing quack and having nothing to say in reply, when these charges of neglect and disobedience were made at the Fellows' meeting two years ago. In regard to the last charge the Secretary asked permission to read the following letter received from the gentleman who presided over that meeting two years ago, our honored ex-president, Dr. B. N. Comings of New Britain:

NEW BRITAIN, OCT. 30, 1888.

DEAR DOCTOR,—In reply to yours of 21st inst., asking me to recall what took place at the Fellows' meeting in May, 1886, at which I presided when Dr. White charged you with neglect of duty in not sending copies of the "Proposed Charter" to every member immediately after the special meeting of the Fellows, in January, I would say, that I remember that you at once rose and stated that you sent to each county clerk a sufficient number of copies to place one in the hands of every member in attendance at the county meetings, and that you enclosed a copy with each programme of the annual meeting sent to all the members of the society, and that in so doing you considered that you had carried out both the spirit and the letter of your instructions, and had saved the society considerable postage. I cannot, therefore, understand what Dr. Hubbard means by saying that when the charge was made "the Secretary was silent and made no sign." You certainly made an explanation, and, to me, a satisfactory one.

Yours,

B. N. COMINGS.

The Secretary asked if the society ought not to take some action in this matter.

Dr. Carmalt said that in the circular alluded to he had been represented as using offensive personalities in his remarks at the Fellows' meeting in 1886. He was not aware that he had done so, did not mean to do so, and was ready to apologize in case it could be shown that he had done so.

Dr. E. C. Kinney, who presided over the Fellows' meeting in 1886, said that he listened attentively to what was said and was not aware that any offensive personalities were uttered.

He then moved the following resolution:

Resolved: "That the society condemns the publication of private circulars as a method of redressing grievances or bringing to notice alleged neglect of duty by officials of the society."

This resolution was passed by a vote of thirty-seven to six.

Dr. Geo. B. Shepherd then read a paper on "Climacteric Glycosuria."

Dr. Henri Robinson read for Dr. J. B. Kent of Putnam, a paper on "Relations between Scrofula and Tuberculosis."

In the discussion of this paper Dr. A. W. Nelson remarked on the apparent good effects which had followed the use of compressed oxygen in a case of phthisis.

Dr. T. H. Russell read a paper on "New Remedies," speaking of Antipyrin, Thalline, Kairin, Antilebetin, Paraldehyde, Cocaine hydrochlorate, and Dramine.

This paper was discussed by Drs. Carmalt, Mallhouse, and others.

During the meeting a telegram was received from President Hills at Willimantic, explaining his absence by reason of sudden illness. The society, on motion of Dr. Wainwright, voted that a telegram expressive of sympathy, and of hope for his speedy recovery, be sent, which was subsequently done.

The following telegram was also received:

PROVIDENCE, R. I.

To the President and Members of the Connecticut Medical Society:

Having designed at divers times to attend your meetings, as a delegate from the Rhode Island Medical Society, your younger sister, not yet quite four-score years of age, I am again at this time grievously disappointed by reason of illness. As the best evidence of good-will, I forward

my salutations, and greet you in the name of the Rhode Island Medical Society, with the warmest assurances of our high regard and our best wishes for your prosperity.

CHAS. H. FISHER.

It was ordered that a telegram of thanks and reciprocal good wishes be sent Dr. Fisher, and it was subsequently sent by the Secretary.

The following papers were read by title and referred to the Committee on Publication:

- "The Alcoholic Question Medically Considered," Dr. T. D. Crothers.
- "Advances of Medical Science," Dr. Lewis Barnes.
- "Relief in Dyspepsia," Dr. H. Fleischner.
- "Medico-legal Study of the Charter of the
Connecticut Medical Society," Dr. S. G. Hubbard.
- "Is Smoking Injurious?" Dr. A. E. Adams.
- "The Adirondacks as a Resort for Health," Dr. W. S. Todd.
- "Treatment of Hip Joint Disease," Dr. H. S. Oyle.
- "Neurectomy of the Tri-Facial Nerve," Dr. M. Stearns.
- "Treatment of Chronic Pulmonary Diseases
by Gaseous Enemas," Dr. M. M. Johnson.
- "Lapsed Writings of Elisha North, M. D. (one
of the original members of the Connecticut
Medical Society)," Prof. H. C. Bowen, Trinity College.

The dinner hour having arrived, the society adjourned at 1.45 to partake of a dinner at the United States Hotel. At this entertainment Dr. H. P. Stearns, Anniversary Chairman, acted efficiently as Master of Ceremonies, and entertaining speeches were made by Gen. J. R. Hawley, Lieutenant-Governor Howard, President G. W. Smith of Trinity College, Lewis E. Stanton of the Hartford Bar, Chas. H. Clark of the Coast, and Dr. Carmalt of New Haven.

S. B. SE. JOHN,
Secretary.

By reason of illness the President's Address to the Convention was not brought into suitable shape, either for delivery before the Convention, or for publication in this volume. The committee hope to be able to publish it as a supplement before the next meeting.

DISSERTATION.

THE TREATMENT OF DISEASES OF THE EAR BY THE GENERAL PRACTITIONER.

By A. E. ARNOLD, M.D., HARTFORD.

In these days of rapid progress in medical science and art, the ambitious practitioner is overwhelmed by the new discoveries and new theories that are poured in upon him. Each issue of the various medical journals that come into his hands is filled with reports of the lately discovered germ, the best antipyretic, or the last novelty in the treatment of pulmonary diseases. His desk is beset with confidential circulars assuming to infallibly guide him in selecting from the various manufacturers who so persistently and extensively advertise. One may read pages of statistics on, and discussions regarding abdominal surgery, but four-fifths of the practicing physicians would find much more to aid them in their daily work from an able article on the treatment of sprains or the various forms of dyspepsia. Slight ailments make up much the larger share of what we meet in our daily rounds, and upon the successful management of these must depend, in great degree, our success or failure in the profession we have chosen. The announcement of a capital operation will fill the seats of a clinic with anxious medical students, while the professor that would illustrate the removal of a foreign body from the conjunctiva will talk to half empty seats. Yet a very small per cent. of the men who receive the degree of M.D. from our best colleges, can at the time of graduation quickly and easily turn the upper lid and examine the eye as an intelligent nurse for a foreign substance. I would be the last to condemn the spirit of progress that is so active to-day, but if we as conscientious physicians are to do the best for

our patients, we must look well after the alleviation and cure of the slight ailments that fall in our way.

An acquaintance of mine, who is a practitioner of excellent judgment and some reputation, once said to his former preceptor: "I get along very well with the regular cases that are laid down in the text-books, but there are many cases I cannot name and they trouble me." Who has not had a similar experience? I have said this much by way of apology, for I claim nothing new or original in the contents of this paper, but I trust the subject is worthy of your consideration. I have selected the treatment of diseases of the ear for two reasons:

First. Such diseases in the greater number of cases must, if recognized in the early stages, when treatment is most successful, be detected by the family physician.

Second. Because too many physicians are under the conviction that diseases of the ear belong entirely to the province of the specialist, and hence give the subject little if any attention. It is almost fourteen years to a day since Dr. Roosa wrote as follows, in the preface to his valuable work on otology:

"The practice of otology in this country was a few years since almost exclusively confined to charlatans, but it is now cultivated by a class of men equal to any in the profession. Ten years ago, in most parts of the country, those who wished advice upon a disease of the ear were forced to seek aid outside the profession. At the present time there can be found those in the large cities who are constantly and successfully treating nasal diseases, and all over the land the old and familiar advice, 'Not to meddle with the ear,' is growing far less frequent. The day will soon arrive—if indeed it is not already upon us—when otology will take equal rank with ophthalmology, to which department it has so long been a mere appendage, and when some knowledge of the diseases of the ear will be required of every practitioner."

Dr. Roosa writing to-day could take even a more hopeful view of his favorite field, but there is yet great room for improvement. Thousands of cases are every year allowed to progress slowly, but surely, to incurable deafness from want of knowledge or attention on the part of their regular medical attendant. Especially is this true in New England, where catarrhal disease of the middle ear is so common. I not infrequently meet persons that are incapacitated socially, and hampered in their business by catarrhal deafness, who

had never suspected that any means of cure had even been thought of or practiced, their medical advisers turned them away with the usual directions to syringe the ear with warm water, and put in a few drops of sweet oil or glycerine.

A "cold in the head" is regarded very indifferently by most patients and many practitioners. After the distressing acute symptoms have subsided the case is considered cured, but there is still lurking in the naso-pharyngeal space and along the eustachian tube a considerable degree of inflammation that is laying the foundation for disease of the middle ear. I have repeatedly seen intelligent patients that were positive they experienced no uncomfortable sensation about the ear, and suffered no impairment of hearing until long after they had apparently recovered from acute coryza. This has led me never to dismiss such patients without carefully examining and testing the ears. The patient's statement as to the hearing will aid you but little. Their reply will often be that they "hear well enough," or "as well as ever," when the watch test will give only twenty-forti-eighths, or even less.

The following case from my note-book, is a fair illustration of these cases.

Miss S—, aged 28, teacher. Had bad feeling in her right ear twenty months ago. Two months ago she accidentally discovered that when lying on the left ear she could not hear her clock tick. Had also noticed that her pupils do not seem to speak as distinctly as usual. "Has had catarrh nearly all her life." Both auditory canals are nearly filled with cerumen. Hears the watch at ten inches on the right, and forty-eight on the left side. Chronic pharyngitis and marked congestion of the nasal mucous membrane. Removal of the cerumen did not improve the hearing. At the end of two weeks of treatment she hears the watch at seventy-two inches on the left, and forty on the right. She now reports once in two or three months, but thus far has fully maintained the hearing acquired during the first treatment, and suffers no inconvenience in her duties as teacher. She had been almost constantly under the care of her family physician for the throat difficulty, but it was not even suspected that she was growing deaf, until she discovered the fact as stated. But the ability to recognize and relieve catarrhal deafness is not our whole duty, and prevention demands a word before we leave this part of our subject.

Excessive wrapping about the neck is, I believe, a prolific cause

of catarrhal diseases. The parts are kept constantly bathed in a too abundant perspiration, and rendered exceedingly sensitive to all draughts of air or changes of temperature. Dr. Brown-Sequard speaks of the neck and the feet as the "catarrhal-genetic areas," and advises that they be rendered less sensitive by blowing a blast of cold air on the back of the neck, while the feet are immersed in cold water. The same principle may be carried out in a less troublesome way. Cold water bathing of the neck and shoulders upon rising in the morning, and following it by brisk friction until the parts are warm and rosy, has been in my hands worth all other means combined in the prevention of coryza and bronchitis. Iron and cod liver oil internally and injections of olive oil are very useful adjuvants in poorly nourished patients. For those who cannot digest cod liver oil comfortably, the injections of oil daily are invaluable. In a recent article in the Medical Record (April 30, 1887, p. 498), Dr. Wm. H. Thomson endorses the cold-water method, and discusses the subject in an intensely interesting manner. When a ferruginous tonic is desired in cases of chronic catarrhal affections of the upper air passages, I have yet to find anything as good as the common combination of tincture of iron with chloride of potash. Regarding the importance of fat as a preventive of nervous exhaustion or susceptibility to cold, Dr. Lauder Brunton in his late work on the disorders of digestion mentions a pertinent case. When the great swimmer Johnson attempted to swim across the English Channel, he fainted, and when lifted into the accompanying boat, his limbs were perfectly useless. This, Dr. Brunton attributes to the action of cold rather than muscular exhaustion. A little later, when Webb attempted the same feat, Dr. Brunton predicted he would fail, but says he did not take into account that Webb was provided with a much thicker layer of subcutaneous fat than Johnson had been, and to this he attributes his success, as it protected him from the prolonged exposure in cold water. Dr. Brunton also notes that in animals living in very cold countries the fat is distributed over the entire body, while in animals exposed to a short winter and very oppressive summer, the fat is collected in lumps or masses, where it may be consumed when an inefficient supply is taken in the food. They are thus protected to some extent in winter and relieved of an oppressive burden in hot weather. The zebra of India, the yak of Tartary, the buffalo of our own prairies, and the

camel of the African or Asiatic deserts, illustrates this fact. You will pardon me for this digression, for it is of the highest importance to fully recognize the principle involved in the prevention of catarrhal diseases and thus indirectly, certain forms of disease of the ear. The vesicular class of cases arising from catarrhal inflammation should not be confused with another group which Dr. Boon styles chronic proliferous inflammation. The latter is much less amenable to treatment, the tympanic stricture is more persistent, and there are wanting the excessive secretion and other symptoms of catarrhal inflammation in the naso-pharyngeal space.

The cases of catarrhal disease of the middle ear least likely to escape attention and treatment are those in which the symptoms are very active in the beginning. It is commonly known as ear ache, and is familiar enough to most physicians and many mothers. Very often no medical advice is sought, as the patient or attendants have learned by experience how the pain may be in part at least controlled, and as soon as the acute symptoms are over, the case is left to take its course, which is usually toward imperfect hearing later in life. No age is exempt from the disease. I recently met a case of a child but five weeks old. When seen early, it is almost certain that the pain may be relieved and the disease cut short before it reaches the suppurative stage. Many over-wise nurses at the present time advise little interference as "it will be all right when the ear runs." In severe cases, leeches should be applied in front of the tragus, and the patient put to bed with hot applications to the lower extremities. If leeches are not at hand the hot douche used in the external auditory canal is a very efficient substitute. It must be used very freely and in a continuous stream; I rarely use less than two quarts. In some cases a few minims of a four per cent. solution of cocaine dropped into the canal will give immediate relief. In other cases, it has entirely failed me. I believe it is most useful when the pain is principally confined to the membrana tympani. Solution of morphia or atropia are sometimes of service, but they are not to be compared with leeches, the hot douche, and cocaine. It is not usually advisable to use the Palmer air bag until the pain is relieved, although a little chloroform vapor may be forced into the middle ear and aid in relieving pain. If, notwithstanding these measures, the active symptoms persist,—the membrane bulging and rupture seems imminent,—paracentesis should be per-

formed. With a good light and an intelligent assistant, the operation is trivial, and with the use of novocaine, or even without it, no other anæsthetic is necessary. The most persistent part of the membrane should usually locate the line of incision. In those cases arising during scarlet fever, diphtheria, typhoid fever, etc., paracentesis may be the only means of saving the membrane from being swept away, and should be made early if milder measures do not quickly relieve. It is well to inflate the middle ear after the puncture is made, and thus force out pus or mucus that may be collected there. Often the wedge of a few drops of serum will give great relief and turn the case toward convalescence. When the mastoid region is involved, leeches and hot fomentations may suffice, but often an early incision down to the bone is the only safe treatment, and even drilling into the mastoid cells of the incision does not relieve. I cannot pass this part of our subject without calling attention to a paper read by Dr. Samuel Sexton, early in 1882, before the New York Academy of Medicine, and published in vol. 21 of the Medical Record.

The doctor styles his paper "The treatment of diseases of the middle ear and contiguous parts by milder measures than those commonly in vogue." He would rarely use leeches, still less the knife. He would depend even in the most unpromising cases on the administration of sulphide of calcium (one-half grain every three or four hours), acetate, gelsemium, or pilosella in small doses frequently repeated and hot vapor or hot air.

Speaking of the sulphide of calcium I quote the doctor's words: "So certain am I of the action of this drug on inflammation, that I have not found it necessary for several years past to resort to leeching, in any case, however severe, and I am scarcely ever obliged to use the knife for the relief of inflamed tissues anywhere about the ear. When large collections of pus have already formed in the subcutaneous tissue, it is, of course, nearly always necessary to lance these promptly; but when the periosteum of the mastoid process, or of other regions near the ear becomes inflamed and pus threatens to form beneath it, I regard the usual operation of cutting down to the bone for the relief of this condition before giving the drug (calcium sulphide) a fair trial, as not only unnecessary for the cure, but also a cruel infliction on the patient, and likely in many instances to very much aggravate the case. I have usually found that the early administration of the calcium

sulphide in these cases very promptly relieves the symptoms which are usually thought to require the use of the knife."

Although Dr. Sexton is so sanguine regarding the power of calcium sulphide I think there are but few physicians who are willing to allow it to displace well-tryed and very positive measures. In suppurative disease of the ear I usually employ it in connection with other treatment and believe that it shortens the duration of the disease. The cases in which the acute inflammation of the middle ear is allowed to progress to the stage of suppuration and then be totally neglected are very numerous; this is especially true after scarlet fever, typhoid fever, and allied diseases. The brief recital of a few cases will fairly illustrate this point.

The notes of the following case were kindly furnished by my former associate, Dr. J. A. Steven:

"Miss R., aged 26, had typhoid fever when eight years old, and recovered after a long illness. Suppuration occurred in one of the ears and the discharge has continued ever since, i. e., for eighteen years. She had consulted several physicians who told her nothing could be done for it, and her friends informed her it would probably injure her health very much to heal it. Fifteen years ago she suffered from mastoid disease and an incision was made. A second mastoid abscess formed during the past winter, which Dr. Steven opened. The ear was filled with several small polypi, and the watch could not be heard at all and conversation with great difficulty. Several of the polypi have been removed, the suppuration checked, and she now hears the watch at three inches. Eighteen years of discharge from the ear, two periods of several weeks each of severe suffering, and the constant danger of meningitis and death, all for the want of a little proper treatment during her convalescence from the fever."

The following from my own note-book is a similar case:

"Mrs. Blank had typhoid fever eleven years ago; more or less discharge from both ears ever since; hears conversation with difficulty; watch, right ear, one inch; left ear not at all. Nothing has ever been attempted or advised for the relief of this condition. One month after the beginning of treatment the discharge had entirely ceased and shows no disposition to return at the end of eleven months. Hears the watch at six inches on the right side and three on the left. Converses quite readily with persons who speak distinctly."

The proper treatment of such cases as the above is as important to the general practitioner as the treatment of pneumonia or dysentery. It is never sufficient to send parents or friends away with instructions and hope to leave the case successfully in their hands. The whole secret lies in the thorough cleansing of the parts involved and to do this requires a good light and a proper syringe. The small cheap glass syringe, so often put into the hands of patients, is a very inefficient instrument. A hard rubber syringe especially made for the ear, and having a capacity of one to two ounces, is the most desirable, and the cost is to most patients not an objection if a nurse or intelligent friend can be enlisted to properly use it. The syringe should be used with caution at first, as many are made very dizzy by it. Patients will sometimes object to the syringe as their former experience has taught them that dizziness is liable to follow, but I have never seen a case in which I was obliged to curb the washing on that account. Since the publication of Dr. Burnett's article on "The advantages of the dry treatment in otitis media" in the *American Journal of Medical Science* for 1883, I have rarely found it necessary to employ any other method. The ear is thoroughly cleansed and dried with absorbent cotton and then by means of a tube from which it may be blown in, or what is better a good powder-blower is used to dust the parts thoroughly with some non-irritant disinfectant powder. The pulver. boracic acid is the one generally employed, although in obstinate cases iodoform is often useful. The boracic acid must be thoroughly triturated, forming a perfectly smooth, silky powder when examined between the fingers. That prepared by Wyeth Brothers of Philadelphia, is the finest that I have ever seen. When the discharge is profuse the powder should be introduced twice a day by the patient's attendant, the ear being gently wiped out with a probe and bit of absorbent cotton before the powder is introduced.

It is only in exceptional cases that I ever prescribe drops of any kind to be used in the ear. The peroxide of hydrogen in solution is valuable for cleansing the deeper parts of the ear, and may be entrusted to patients for home use if the syringe is advised. It rapidly oxidizes dried pus that is otherwise often difficult to remove. In certain cases I use astringents in solution, but they form the minority of cases.

In cases of chronic discharge from the ear the canal is often

found partly or entirely excluded by polypi. These of course must be removed before there is any hope of cure. When of sufficient size I seize them with the Jarvik snare, cutting the pedicle as close to the canal as possible, and afterward treat it by applications of a strong solution of nitrate of silver (32—34). When granulations are abundant and very active in the deep canal I have not found anything to serve me better than filling the canal for a few minutes, night and morning, with pure alcohol. By its strong affinity for water this liquid soon robs them of their vitality, and they give no further trouble. The method is not painful enough to be a serious objection in my experience.

In all cases of chronic suppurative disease of the ear the patient must from the first be impressed with the importance of regular and persistent treatment. If you can see him only at long and uncertain intervals the prognosis is very unfavorable. Even after they are apparently cured they should report occasionally for examination. I advise once a month for six months and after that every two months for a year. I also keep a record of each patient and notify them if they do not appear at the appointed time. I have seen a patient who, by careful watching, has been entirely cured of a chronic discharge from both ears, and in whom you would now notice no impairment of hearing during ordinary conversation. Yet both drums were perforated, and have twice reopened after the old perforations were apparently healed. If the case had been lost sight of too early she would have finally been shut out of society and a wide sphere of usefulness by impairment of hearing.

It was my original intention to say something on the differential diagnosis of diseases of the middle and internal ear, of tinnitus aurium, and of the removal of foreign bodies from the ear, but I have already exceeded the time I intended to occupy. As general practitioners we may say we have no experience in aural diseases, and prefer to turn them over to the specialist. But the means of experience are at hand. We do not refuse cases of pneumonia or typhoid fever on the ground of lack of experience, but we study the cases and treat them according to the best light we can obtain. If we look for them we shall find a score of cases of ear difficulty to every one of pneumonia, and if we do not get the experience it is not for want of clinical material. There is probably not an active general practitioner in Connecticut who has not in his circle of patients enough eye and ear troubles for a good clinic once a

work. But you will ask, where does the specialist come in? Do the best we can there will be left ample work for him, and if he be a specialist in the true sense of the term, *i. e.*, one whose experience has especially fitted him for skillfully dealing with difficult cases, he will be cheerfully and intelligently supported by the general practitioners from whom he hopes to secure his clientele. He moreover will not be obliged to turn the conversation when patients inquire if it would have been better if they had come earlier, or "what does he think of the treatment his family physician has been giving him"? There is no conflict between the general practitioner and the specialist; each has his legitimate sphere, and where the duty of one ends the other just begins. As Dr. Thomson neatly puts it, "The unity of the body renders the general practitioner useful to the specialist, while the complexity of the body renders the specialist often an indispensable associate to the general practitioner."

In recording the motion for reference of Dr. Abrams' paper, Dr. Carnall begged to call attention to its great value from the standpoint of the general practitioner. It was his unfortunate experience to be obliged very frequently to say to patients, that their irremediable deafness was due to neglect of some sort or another of throat or nose affection; and when the reply is, as it is in a countless number of cases, that "my family physician told me that I would grow out of it," or "that it wouldn't amount to anything,"—he is obliged to think, even if he does not say it, that "your family physician neglected his duty in not warning you of your danger." It is true that the family physician may be honest in his opinion, he may think he has seen several such cases recover, but the great majority of these very cases have simply passed out of his observation, for the patient, after waiting many years for his "growth" to come, and finding himself getting worse instead of better, turns, when too late, to the aurist, expecting him to accomplish the impossible, *i. e.*, turn back the hands of Time: put the patient back ten or fifteen or twenty years in his life, in order to get at the proper time to treat the disease.

Dr. Carnall did not think he could add any suggestions of value to the paper,—it was very clear and thorough, the indications for treatment were plain, and the methods advised were sufficiently easily carried out. It was the duty of the physician to insist upon the necessity of treatment, warning the patient of the great dan-

get to hearing if neglected. A certain number would still decline treatment on account of the trouble, or of the slight immediate or evident improvement; but there are also people who believe that they can risk the jumping off of moving railroad trains, or that they can fool with guns which they "thought were unloaded," but it is not from this class that the real opposition to the profession comes. It is from those who are lulled to a false security, in the assurance that nothing will come of it.

Dr. St. John said that he entirely agreed with what had been said as to the desirability of having ear diseases treated by the general practitioner. Cases were repeatedly referred to him of the class mentioned by Dr. Carmalt, but he believed that they would be less frequent in time to come. He called attention to the necessity of following up these cases, and not discontinuing treatment until the earache has been entirely overcome, and the parts restored as early as possible to a normal condition. With regard to the details of treatment, it was evident that Dr. Abrams was an advocate of what is known as the "dry method," a method which certainly was an admirable one in many cases. Nevertheless, he found it to fail utterly in many, and had come to the conclusion that the cases to which it was especially applicable were those with a large opening in the membrana tympani through which the powder could readily pass and come into direct contact with the inflamed membrane. In these cases, it was his practice to wipe out the tympanic cavity, or, if the case required it, to syringe it out with the middle ear syringe, and then after wiping it dry to apply the powder (usually boracic acid) packing it into the cavity firmly. But in cases where the opening through the membrana tympani was small, he much preferred the use of astringent drops, having them instilled warm while the patient was lying down and allowing them to remain in the ear several minutes. It was necessary, therefore, to see the opening in the drum-head before deciding which method of treatment was most likely to be effective.

He also called attention to the fact that the idea so prevalent in the community, that a "ringing ear was not of much account," was not accepted by the insurance companies, who look at it in a business way, guided by statistical tables—but most companies look with suspicion upon a risk in which there is a history of chronic stertor, knowing as they do that many cases of meningitis, or other brain disease, are traceable to the aural trouble.

ESSAY.

CLIMACTERIC GLYCOSURIA.

BY GEORGE R. SERRINER, M.D., HARTFORD.

Mrs. W., aged 49, consulted me in 1872 on account of pruritus of the vulva. Examination showed the parts to be very red, with occasional whitish patches looking not unlike a follicular tonsillitis. Vaginal examination revealed the absence of uterine disease, and that there was no leucorrhea to speak of. The menses had ceased some months previously and her general health (never the most robust) was better than formerly. Various lotions and ointments were used to relieve the intense itching, but with only slight and temporary effect. At last the urine was examined and found to be largely saccharine with a specific gravity of 1.016. The quantity voided was not much in excess of normal, being only two to two and a half quarts daily. The skin was but slightly dry, and there was very little thirst though the tongue had a somewhat glazed and red appearance. Careful diet was enjoined and the usual regimen for diabetes strictly established. Medicinally the saccharated carbonate of iron was administered in scruple doses three times a day, and subsequently the treatment altered and varied, until almost everything ever suggested for the disease was given a trial, but apparently without effect. The amount of sugar did not diminish, the lowest specific gravity, of which I find any record, being 1.025 and the local tenderness and pruritus remaining, at times so intense that it was only rendered endurable by frequent bathing with borax water and keeping the parts well covered with ointments. One thing excited my surprise, viz., that there was no slight emaciation and no marked failure of strength. Had it not been for the troublesome itching the patient would have called herself well. At the time I attributed her con-

tinuance of appetite and strength to the iron she took, and quite planned myself on keeping her in such good condition. The sequel will show how correct this assumption was. For over two years this case was under my observation, remaining about the same; she then moved to quite a distance from me and I saw but little of her until the spring of 1873, when she sent for me to set a broken arm. I was quite surprised at that visit to find that although having suspended all medical treatment and resumed her ordinary diet she was looking well and her old symptoms greatly relieved. Examination of the urine showed the entire absence of sugar with a specific gravity of 1.026. The vulva was found healed, and in a perfectly natural condition and the pruritus wholly gone,—a condition of things which she attributed to leaving off the medicine. The fracture of the humerus, although a compound one, did well, and she recovered with a strong and useful arm. Occasionally I have heard from her since, and there has been no return of the symptoms of diabetes.

In February, 1874, Mrs. A., aged 47, consulted me for pruritus vulvae, stating that it had existed for several months. She said that her health was good in all other respects except that she suffered a little from thirst and dryness of the throat, and had to pass water quite frequently. Upon examination the urine was found to contain a considerable amount of sugar, though the quantity in twenty-four hours was not very large. Menstruation was regular and there was no leucorrhœa nor any evidence of uterine disease, hence I expressed the opinion that she had diabetes, and the pruritus was simply the result of the irritation from saccharine urine. Lotions of bicarbonate of soda and iodoform were advised locally, and the patient put on a restricted diet, with a rather gloomy prognosis as to ultimate recovery. The lotion relieved the local distress, but the sugar remained quite abundant for some years in spite of all treatment. The characteric was passed about four years after her first treatment was begun, and, although the restricted diet had been abandoned for a long while in consequence of its not appearing to benefit her so far as the excretion of sugar was concerned, yet, after the menopause, she began to mend, and in the course of twelve or fifteen months was well of both the pruritus and the diabetic disease. I ascertained that she was living a year or two since, and that there had been no return of her trouble.

While I was acting as house physician at the New Haven Hospital, in 1863, I remember a case quite similar to the one just narrated, upon which diet had but slight influence, and there was little or no loss of flesh and strength, pruritus of the genitals being the main symptom complained of. I saw this patient a few years afterwards, and learned that shortly following the menopause the trouble subsided of its own accord, apparently, without any attention being paid to diet or medication. These three cases were brought to my recollection, by being called some months since to see Mrs. B., aged fifty-two; she had a good appetite, and was in fair condition as to strength. She had always been a very strong, vigorous woman, until some three or four years ago, when she began to suffer from pruritus of the vulva, accompanied with too frequent micturition, the urine at times passing quite involuntarily. She stated that she had consulted a number of physicians, and taken a good deal of medicine, but without relief. Her bladder had been examined by the sound and no calculus found. Her urine had frequently been analyzed, and she told that it was all right, and she not suffering from any bladder disease, and for a long time her complaint had been called chronic eczema. Upon making an inspection of the parts the vulva was found swollen and red, cracked and bleeding in places, and at the lower part of the vagina and inside the labia was a considerable deposit of a whitish material quite soft and smooth under the fingers. No uterine disease was found to exist, nor was there any leucorrhœa, except a little discharge the result of extension of the external inflammation up the vagina for a very short distance.

Microscopic examination of the whitish masses found as above mentioned, proved them to be wholly composed of fungus growth containing branching rods, terminated by round heads filled with spherical cells, quite identical with the yeast or sugar fungus as we see it in diabetic urine. Analysis of the urine gave evidence of quite an amount of sugar with a specific gravity of 1.025. There was a little mucus, a few blood and pus corpuscles, but no albumen. The quantity of urine in twenty-four hours was hard to determine owing to the incontinence, but was estimated as about two quarts. The patient stated that she had not menstruated for the past seven months, and for the year or two preceding the last period the menses were very irregular. Her impression was that for the past few months she had had less discomfort than pre-

visually. Lotions of bicarbonate of soda and lanolin gave her a good deal of relief from the itching, but not complete immunity, — a solution of hypophosphite of soda, 3i to ʒi gave greater comfort than any thing else. Diet and medication did not appear to influence the excretion of sugar, but opium internally enabled her to sleep and this added to her comfort. At the present time (nearly a little over four months since first seen by me), she is in a very comfortable condition as regards the pruritus, in fact it has almost wholly disappeared, the vulva and vagina being healed and natural in size and appearance. The sugar has steadily lessened in quantity, being now only a trace — specific gravity of urine, 1.025. There is no incontinence, and about three gists are passed in twenty-four hours. She has taken no medicine since I have attended her, beyond a little opium to make her sleep, and even that but irregularly.

The particular features of these cases that interest us at the present time are glycosuria appearing in women at or near the climacteric period, accompanied by but one symptom calculated to attract attention, viz: pruritus vulvae of a chronic and obstinate form, the disease continuing for several years without detriment to the general health, and subsiding spontaneously, apparently uninfluenced by treatment.

Very little is to be found in medical literature on this subject. Bulkley, speaking of eczema, says, "pruritus [vulva] depending upon glycosuria must never be forgotten and when there has been long continued itching about the genital region the urine should always be examined for sugar and other changes, such as oxaluria, lithuria, etc."

Dalring says, "In obstinate cases sugar may be suspected. Diabetes mellitus is a not uncommon cause." Senks says pruritus "may be caused by changes in the normal condition of the urine, especially diabetes." Thomas writes, "I have so often found diabetes accompanied by these symptoms [*i. e.* pruritus pudendi] that I always examine the urine." Bartes goes a step further and alludes to the menopause as a time when it may occur — he says: "In some cases the irritation depends upon diabetes. In many of the most obstinate of these cases there is no very chronic inflammation. Some of these have been described under the head of climacteric disease." Wilson says: "I have seen it [pruritus] in young children, more frequently at puberty or the cessation of the

diabetes." Sims says pruritus "is perhaps more frequently observed at the climacteric period when the menses are about to cease. Dr. West alludes to a case in which a young lady suffered severely from pruritus which turned out to be due to diabetes." Hall mentions having "noticed that women at the change often pass considerable quantities of urine containing sugar." Nesbitt and Vogel do not allude to this period of life as showing any special tendency to diabetes, nor does Tyson in his recent article in "Pepper's System of Medicine", mention it. Roberts says: "In the female heat and itching about the vulva is a common and distressing symptom" [in diabetes], and further on he writes, "when sugar is present in quantity sufficient to interest the practitioner it is detectable with certainty by direct testing, and conversely, when direct testing reveals the presence of sugar, it is invariably a *grave pathological sign*, and not a matter of mere physiological curiosity," thus showing that he had not recognized any class of cases in which spontaneous recovery was to be expected, though he recognizes three groups of "milder types of diabetes."

1st. When the urine is persistently saccharine, Sims 1,030 to 1,042, diabetes about or very moderate, no excessive thirst nor appetite, moderate conservation of strength and flesh, and stationary condition.

2d. Traumatic cases of temporary or intermittent glycosuria.

3d. Those advanced in years or of a feeble habit. Evidently alluding to those cases where the liver rather than the nervous system is the organ primarily at fault. A writer in the *Gynecological Annals* for October, 1885, in a considerable article on the subject of diabetes, states that he finds in 114 cases among women, 70 appearing subsequent to the cessation of menstruation, and concludes that the menstrual life affords a certain immunity for women with regard to this affection, but he does not speak of the climacteric period as particularly liable to its development.

So far, to my knowledge, the only account of any similar cases to those I have just narrated, is found in a short paper by Lawson Tait, published in the *Practitioner* for June, 1886. He speaks of having had a number of cases, in his experience among women, near the climacteric, and it was the recollection of his account of them that caused me to make the microscopic examination of the whitish masses found in the vagina of my last patient. In my

onal of his cases the same fungus was found. He says that his "observations lead clearly to the establishment of the fact, that there seems to be a special form of diabetes in women at the menstrial period which runs a certain definite course, extending over some years and having a natural termination in recovery. It does not seem to be curable by drugs," but, he adds "all the cases have given me the impression that the termination has been a natural one." He recommends hepai sulphur ointment and lotions of hyposulphite of soda and sulphuret of potassium as local applications, but has found carbolic acid and bichloride of mercury of no avail. Some of his cases did well with sulphurous acid locally. The constitutional treatment he limits to opium given in one grain doses, three times a day, with three to five grains additional at bedtime. In closing his paper he says, "roughly speaking, the conclusions I have arrived at concerning this affection are: that in the great majority of cases of eczema of the vulva, at the climacteric period, the disease is due to the presence of sugar in the urine. I have not yet come across a case, in which, having examined for sugar, I have not found it. The disease seems to begin at or near the arrest of the menstrual function, and to extend over a period of several years, then terminating, in all probability, by nature's own process. The sufferings of the patient are very much diminished and probably the duration of the disease is shortened by the liberal administration of opium, while the local trouble is best mitigated by ointments containing such substances as will arrest the process of fermentative change in sugar. So far, the best substance that I have found for the purpose, is the old fashioned hepai sulphur ointment."

The views expressed so decidedly by Tait, would seem to be confirmed by the cases cited above, viz., that there is a peculiar form of diabetes, or glycosuria, occasionally appearing at the climacteric period in women, having a natural termination in recovery after a period of a few years. As Tait does not mention any symptoms of his cases except the presence of sugar in the urine and its sequel, pruritus, it is, perhaps, hardly fair to criticize his diagnosis, but it would seem that a distinction should be made between glycosuria and diabetes. The first is a symptom, the latter a disease. We never meet with diabetes without glycosuria, but may have glycosuria which is not diabetes. In diabetes, we expect to find

besides the presence of sugar, a marked increase in the quantity of urine secreted. This was not the case in my case. There was no thirst to speak of, no dryness of the skin, nor emaciation. There was no general pruritus of the body: no gangrene, dyspepsia, nor paralysis. Very rare indeed must be the case of diabetes in which a compound fracture of the humerus, causing two large, lacerated wounds of the integument, would heal promptly and without any unfavorable symptoms, and yet such was the case as related. Then, too, in diabetes it is common to find diet producing some effect, temporarily at least, on the excretion of sugar, but in the case mentioned, no such result was attained, and more than all this the natural course of diabetes is to a fatal termination, while these cases all show a directly opposite tendency. Hence it would seem more correct to discard the name diabetes and consider the glycosuria as a physiological result of the peculiar condition of the system incident to that period of female life. When we recollect the peculiarly sensitive condition of the female nervous system, and the great nervous irritability existing at the time of the menopause in many women, it is easy to see, in the light of our present knowledge, a possible cause here for the appearance of sugar in the urine at this period of life. Long ago we learned that irritation of the vaso-motor center on the floor of the fourth ventricle would produce sugar in the urine, and now we know that it is not necessary for this irritation to be central, it may be ganglionic or even peripheral, any agency in fact, operating to paralyze the vaso-motor nerves of the liver, may be followed by glycosuria. Perhaps "paralysis" is not the correct word to use in this connection, since Eckhard contends that the phenomena of glycosuria are irritative rather than paralytic, but be this as it may, we know that hyperæmia of the liver is the result by which the sugar is thrown into the system and eliminated by the kidneys. Pavy has advanced a chemical theory to explain the action of hyperæmia in producing glycosuria. He considers that in healthy digestion the carbohydrates (starch and sugar) are converted not into glucose, but into maltose, which is absorbed and assimilated and converted into glycogen. For the proper production of maltose and its assimilation, a good venous blood, producing a maltose-forming ferment, is necessary. When hyperæmia of the chylific viscera exists the blood reaches the liver too little de-oxygenated and a glucose-forming fer-

ment is produced. The glucose not being available, passes off into the circulation and is excreted by the kidneys. Assuming the correctness of this chemical theory, it seems quite possible that the circulatory changes incident to the characteristic period is *wonosa*, may, in some cases, be an altered condition of the venous blood tending to hinder complete de-oxygenation, thus aiding to form the glucose rather than the maltose ferment, and resulting in glycosuria.

The subject is an interesting one and worthy of study, and it is to be hoped and confidently expected that the light of future research will more clearly define the conditions that operate to produce these symptoms.

ESSAY.

THE RELATIONS BETWEEN SCROFULA AND TUBERCLE.

By J. B. KENT, M.D., PITTSBURGH.

Since the earliest days of medicine vague ideas and conflicting views appear to have been bestowed upon this disease from time to time, until they have at last formed for it a kind of hereditary property, that has slowly accumulated and been handed down to the present age. "It must be confessed that the pathology of scrofula is still very ill-defined; its proper position in the pathological scale is disputed and uncertain, and its relation to other morbid states is variously expressed, and so divided are opinions as to its nature, that unless a precise definition be given, the term 'scrofula' becomes a mere word, having a meaning only for the individual who uses it." To what varied conditions of health and to what different individuals does the term "a strumous child" apply? How little do some physicians mean by it, and how much is implied by its use by others. And when we come to that patient described as "slightly strumous" or alluded to as possessing "a touch of scrofula," what shall we understand by it? No one would think of alluding to a "slightly cancerous person." Cancer either exists or it does not. It happens to be a distinct disease, and the term "slightly cancerous" would therefore be ridiculous.

This lack of scientific clearness in the pathology of scrofula appears to me to be, to a great extent, due to two causes. First, The difficulty of isolating scrofulous diseases from the manifestations of mere ill health, mere frailty of constitution. Second. The persistent attempt to find out some characteristic anatomical elements for every disease they deal with, and not to remain

satisfied until they have found such specific element. The first difficulty is purely clinical, the second is pathological. With regard to the clinical difficulty it must be remembered that there is still a wide area in medicine occupied by a class of unhealthy persons, whose weak state is indefinitely expressed by saying that they are delicate, frail, or of feeble constitution. Acknowledge advances, however, this is more and more limited. As our acquaintance with disease increases, first one portion and then another of this common ground is absorbed, now by one affection, now by another. Some children once classed as simply delicate, are now perhaps known to be the subjects of hereditary syphilis, or of some hereditary conditions, that have now become better known. "And so long as there exists a class, whose deviations from the normal state can be expressed in no clearer terms than that they are delicate, or of feeble constitution, so long must medical knowledge be considered incomplete." Before hereditary syphilis was understood, all its manifestations were classed as scrofulous; rickets was considered a strumous disease. Lung infections, fevers and worms as scrofulous disorders. Carnichael discovered that scrofulin and diabetes were allied, while Hamilton observes, "I never knew a scirrhus or a cancer hot in a scrofulous subject."

The second cause for the unstable position of scrofula, depends upon an ancient impression that every disease, or diathesis, must have some specific anatomical feature associated with it. The outcome of this impression has brought into the field the subject of tuberculosis, and since tubercle was first described it has been linked together with scrofula.

Scrofula at one time was considered as a tubercular process, tubercle at another time described as a scrofulous process. The term "tubercle" has experienced a series of changes. It has been applied first to one appearance and then to another, until it must be owned that the tubercle of to-day is a vastly different affair as compared to the tubercle of the time of Laennec. The associations of scrofula, therefore, with this vague pathological element, can in some manner account for the uncertain position the disease has occupied from time to time, and for the somewhat indefinite outlines it still retains.

Inasmuch as scrofula is so closely bound up with the subject of tuberculosis, the first point to be considered in discussing the pathology of the febrile disease, is the nature of tubercle and its

relations to the scrofulous process. It is obvious that no definition of scrofula can be attempted until this relationship is clearly set forth. The term "tubercle" was originally applied to a certain naked-eye appearance,—to little distinct specks or spots of diseased tissue, that were conspicuous as nodules or tubercles. When first used, the term "tubercle" had no more clinical significance than has the term "nodular." So close is this connection that it is almost impossible to separate certain anatomical appearances from certain clinical conditions, and no matter to what structural change the word "tubercle" is applied, there still lurks behind it a suggestion of a distinct clinical state, known as tubercular. A better restriction of the word was arrived at when it was set forth that some of these "nodules" were gray and clear, while others were yellow and opaque. Thus arose a division of "tubercle" into the gray and yellow varieties. The yellow, or so-called *crude tubercles*, were for the most part caseous,—decayed masses; and they were soon eliminated from the tubercles class when it was shown that caseation was by no means limited to what was known as the tubercular process. With regard to the gray variety, it was found that such nodules, when found in the lung, were often made up *solely* of little masses of alveolar epithelium, the results of a catarrh. Still finer distinctions therefore had to be laid down as characteristic of tubercle. The term was then restricted to such gray, semi-transparent bodies as were not merely masses of catarrhal exudation, and that, while retaining the size of a millet seed, were hard and firm. These tubercles it was found in time became opaque in the center, and then wholly caseous, and had a tendency to fuse together and form larger masses. The term *miliary tubercle* was applied to these, and in the disease known as *miliary tuberculosis* they were considered to be met with in perfection. In time, however, certain tissue changes were noted, which were regarded as tubercular, but which were not associated with the appearance of these distinct gray masses. "In the place of such masses certain microscopic nodules alone were detected and were found to possess a simple structure, and as it was observed that certain of the gray miliary tubercles, visible to the naked eye, were simply made up of a collection of these microscopic nodules, the latter were distinguished by the term *submiliary tubercles*." It must be owned that for a long time the microscopic appearances of tubercle were very indefinite, and it was not

until this free restriction of the word was accepted, that anything like uniformity was adopted. These little microscopic nodules were found to be of common occurrence, and capable of undergoing the final degenerative process without having first formed themselves into the larger masses known as miliary tubercles. It is to these microscopic nodules only, the term tubercle is, in its strictest sense, now applied. Thus it will be seen that the anatomical ground on which tubercle rests has been from time to time cut down, and that the large basis it originally possessed has been reduced to a very minute point. This submiliary mass, or ultimate tubercle, has been described by many observers, and has received many names; but although the terms used differ, and although some of the descriptions differ from the rest, yet there is so much general accord that pathologists of the present day seem to be at least agreed as to what tubercle looks like, even if they differ as to what it is.

Histology of Tubercle.— This simple submiliary tubercle has been described under many names, as for instance: "primitive or elementary tubercle" by Koster, as "tubercular follicle" by Charcot, as "reticular tubercle" by K. Wagner. All these terms may be regarded as synonymous. A tubercle is composed of a mass having a fairly rounded outline, and made up principally of cells. "These cells are so arranged as to form three zones. The central part is occupied by one or more giant cells, around this is a zone of many so-called epithelial cells, and beyond this is a third zone of simple cells, leucocytes." Hamilton says: "All these cell elements are supported by a fine reticulum, which is generally concentrically arranged at the periphery, and towards the center is observed to be continuous with the processes that commonly come off from the giant cells." The surrounding tissue is non-vascular. Such is a typical tubercle. The giant cell, although not specific of tubercle, is usually present. As to the structural origin of tubercle it will be easily understood that great diversity of opinion exists. Some hold that it is a connective tissue growth, others, that it is essentially a lymphoid structure. Some observers, among them Cornill and Ranvier, refer its origin to the vessels of the part, and state that a coagulum forms in the blood capillary. Others regard the giant cell as a protoplasmic mass, and consider that it indicates a return of the tissue to a more embryonic state. Among other views may be noted one that applies only to the

lung and is to the effect that these giant cells are formed by the fusion of the epithelial cells of the lung alveoli. These, although but a few of the theories that have been advanced, are perhaps the most representative.

Such being tubercle, the first question to be asked is this, Does this tubercle present any specific anatomical element? To this we answer, It does not. Lebert, some years ago, endeavored to establish the specific character of certain cells in tubercle, but his conclusions were found to be erroneous. Schüppell, again in more recent times, endeavored to maintain the specific character of the giant cell, and claimed that the structure was peculiar to tubercle, and even diagnostic of it. This theory has also been quite overthrown, and it is now known that giant cells are to be found under the most varied circumstances and conditions not tubercular. Thus they have been found in chronically inflamed connective tissue, in ulcers and in erosions of the os uteri and in many other conditions. Yet, while the giant cell cannot be regarded as specific of tubercle, still, it must be owned, that they are not commonly found unassociated with that product. Says Hamilton: "The anatomical individuality therefore, of tubercle, depends upon no essential element, but must rest upon the general conformation of the mass, the grouping of the parts, the relation it holds to the tissues around, and above all to its history, its tendencies, its peculiar progress." Now what is the relation between scrofula and tubercle? What meaning shall we attach to the terms scrofulous and tuberculous? For the present then let the terms tuberculous and tuberculous be considered as applying to such diseases as acute milary tuberculosis, tubercular peritonitis, tubercular meningitis, and the term scrofula or scrofulous to those diseases commonly known by that name; as for example, glandular enlargements, certain chronic bone and joint affections, cold abscesses, certain ulcers and eruptions of the skin and mucous membranes. Is tubercle, as just described, met with in scrofulous affections? To this question an affirmative answer must most certainly be given. In scrofulous lymphatic glands the most perfect and most typical tubercle is to be met with. In the synovial membrane, and in the bone in cases of so-called strumous joint diseases, perfect tubercle has been discovered. Tubercle is also to be found in scrofulous ulcers, in lupus, in certain affections of the mucous membrane and in other parts.

If this be the case, there would appear to be no difficulty in establishing the fact that scrofula is what is termed a tubercular process. But this is not so simple as it would seem. In the first place these tubercles are not met with in all scrofulous affections. In the skin eruptions in some of the more common affections of the mucous membrane, and in many typically scrofulous glands, no tubercles are to be met with. Neither has the presence of tubercles been observed in all diseases of bones and joints in the scrofulous. Thus some pathologists would limit the term "scrofulous" to those affections only that present no tubercle, and reserve for the rest the term "tuberculous." It is chiefly with regard to the lymphatic glands that this division of disease has been urged. But it must be remembered that there are grades and degrees in the tubercular process, just as there are varieties and degrees of inflammatory action. In some cases the tubercular action does not proceed so far as the formation of tubercle, just as all inflammations do not always proceed to the formation of pus. At any point in the tubercle-producing process the action may end and cessation set in. Many scrofulous glands caseate without developing any tubercle, but in the process that precedes such caseation one recognizes a state that is preliminary to the formation of the nodule. It may be termed a pre-tubercular state. Tubercle is the most finished structural change of a certain process, and such a period may never be reached in a vast number of strumous diseases. Now does it not seem unreasonable to make a marked division between these two grades of gland affection, the gland that shows tubercle, and the gland that just falls short of that product? They are both essentially tubercular, and terms should not be applied to their morbid conditions that would indicate anything more than difference in degree. But those who maintain the distinction between scrofula and tuberculosis designate those glands that show perfect tubercle, tuberculous, and those that present only the immature structure, scrofulous. Comil says this use of terms would not be objectionable had it only an anatomical basis, and did not a very rigorous clinical meaning associate itself with these two adjectives. He also lays down clear clinical distinctions between the scrofulous and the tubercular gland.

The term tubercular is used in a double sense. It is applied to an anatomical condition, — to any disease presenting perfect tubercle, and it is also applied to certain clinical states. Unfortunately

these two conditions do not quite coincide, and the presence of tubercle does not of necessity imply that grave state of health associated with the word tuberculosis. Heretofore tubercle has been associated with all the grave lung affections. This is much to be regretted. In a little patch of lupus on the face perfect tubercle may be found. Surely this patient is not so affected as to be called tuberculous in the usual clinical sense. Is he likely to die of some acute and sudden tubercular disease? Is he not, on the contrary, as likely to attain old age as is the majority of other persons? "Perfect tubercle is met with in lymphatic glands, but such glands, after a time, may eliminate the disease, and a cure result, followed by its last consequences." Tubercle may be found, also, in other diseases quite remote from any clinical association with tuberculosis. Koster has describediliary tubercle as osteomyelitis, in chronic pericarditis, in the primary syphilitic sore, in elephantiasis of the labæ, and other conditions. To apply the term tuberculosis to such cases would be ridiculous. The use of the term proceeds, as we have before stated, to a great degree from the general attempt to associate diathesis, or disease with some specific anatomical element. The logic is like this: tubercles are found in some iiliary tuberculosis, and other fatal diseases, and these diseases are called tuberculous, therefore other disease that presents tubercle must also be tuberculous. M. Fournier well observes, "tubercle does not constitute a disease any more than does suppuration." It is, says he, "the exclusive indication of no one malady, and the outcome of no one special state of defective health." Although we recognise the fact that tubercle appears in scrofula, yet one is positively loath to term scrofula a tuberculous disease. Dr. Crancher says, "*that in scrofula an immature or embryonic tubercle is often met with, and that the adult or completely developed tubercle does not occur in the disease, but on the contrary, is the main attribute of tuberculosis exclusively so-called.*" He regards scrofula, therefore, as a milder, less perfect form of tuberculosis. He sees the perfect identity of the two affections, and insists that they differ only in degree, in age, in maturity. Hence it is said that the immature tubercle of Virchow corresponds to the tubercle already described as the elementary or primitive tubercle; while the adult or mature tubercle is represented as the gray granulation of Laennec, well known as the simple iiliary tubercle, and indicates a fairly complete development of this pro-

case. It is certainly true that this mature, adult granulation is very rarely, if ever, met with in truly scrofulous affections. "In scrofula the tubercular process ends in caseous degeneration before the formation of such a mass is reached." Many other views as to the relation between scrofula and tuberculosis depend upon the results of experimental inoculation.

Some pathologists, Rindfleisch among others, regard tuberculosis as an infective disease, a disease not so much due to hereditary diathesis as an acquired malady, like syphilis or glanders. Relying upon the well-known inoculation experiments, they urge that a true diathesis can not be transmitted by inoculation and that as tuberculosis may arise from inoculation it is therefore not a diathesis; whereas the products of scrofula not being inoculable, that malady may be ranked with the diatheses. As to the relation between the two they consider them as soil to seed. Scrofula is the soil, tubercle the seed, and that it is especially of *not exclusively upon the soil of scrofula that the infective tubercle can take root and develop.* M. Berola has exposed these views, and his conclusions as recently published may be considered as representative of a large class of theories. The experimental inoculation of tubercular and scrofulous products have been very elaborately conducted, the material being injected into the pleural or peritoneal cavities, or introduced under the skin. The result was that in most cases the animals operated upon developed a disease considered as akin to acute miliary tuberculosis in man. It was argued from these experiments that tuberculosis was an infective disease, and that this feature distinguished it from scrofula. But the result of vertebral investigations, such as those by Fox, showed that when this tubercular matter was introduced under the skin, it set up a kind of local scrofula, a suppurative process associated with enlarged and caseous glands. This at once showed that the relation between scrofula and tuberculosis was very close and only a difference in degree rather than in kind. The only way out of the matter was to call the local disease tuberculous. But it was found that scrofulous matters, if used in these experiments, produced general tuberculosis, as readily as did tubercular matter. Indeed the matter from a caseous gland became the most active. More recent experiments now show that matter taken from the fungous granulations of white swelling joints, from scrofulous otitis, so called, and peristitis, all produce general tuberculosis when inoculated. Cohnheim, whose experiments are

most elaborate, asserts "that all the recognized tubercular and scrofulous processes, however they may differ anatomically, are tubercular, inasmuch as the products of all of them are equally active by inoculation." So far then, the identity of the two affections would appear to be confirmed by these experiments, and if this be true, the two morbid conditions can differ only in degree, as has been before maintained. These experiments then show, first, "that tubercular matter when introduced into the bodies of animals can produce at first a local disease not distinguishable from scrofula;" second, "that scrofulous matter when used as a vehicle for inoculation, can produce general tuberculosis; third, "that tubercular matter sometimes acts more vigorously by inoculation than does scrofulous matter. The following conclusions may then be understood to be the relations between scrofula and tubercle:

First. The manifestations of scrofula are commonly associated with tubercle, or if no fully formed tubercle be met with, a condition of tissue exists that is recognised as being preliminary to tubercle. Anatomically, therefore, scrofula may be regarded as a tuberculous or a tubercle-forming process.

Second. The form of tubercle met with in so-called scrofulous diseases is usually of an elementary and often of an immature character; whereas, in diseases called tuberculous, a more perfect form of tubercle is met with in the form of a gray granulation or "adult tubercle."

Third. Scrofula therefore indicates a milder form or stage of tuberculosis, and the two processes are simply separated from one another by degree.

Now what shall we say as to treatment? As is well known, remedies may have been prescribed in all ages, and with that degree of success which is far from being satisfactory. To my mind, the first and most important step in the treatment of this class of disease is the removal of your patient to a proper climate. I mean by this, to a climate moderately cool, quite dry, and slightly variable, with plenty of sunshine, which will admit of the patient spending most of his time out of doors. Such a climate we find in Alaska, S. C., in the high rolling country and the pine belts of Georgia, in Southern California, in New Mexico, and other places I need not mention in our own country, or in Nice, Mentone, San Remo, etc., on the continent.

To such a change as this may be attributed doubtless, more cures of scrofulous or tuberculous diseases than from all other agencies combined.

Do not understand me that I should disregard medication; on the contrary, cod liver oil, the hypophosphites, the iodides, etc., etc., all should occupy a high place among the therapeutics of consumption, to say nothing of the more modern and popular plan of treatment by inhalation. The inhalation of oxygen gas, and the various medicated spray and vapor inhalations, so popular among specialists of the present day. Then comes the pneumatic cabinet. From reports of cases made by those who are operating it, we have every reason to believe that good work is being done in this direction, and that it will prove, ere long, to be a very valuable addition to the physician's armamentarium. The day is passed when consumption may be considered incurable, as is well known from the records of our dead houses, and dissecting-rooms.

Other methods of treatment are claiming the attention of the profession in a more marked degree than ever before. For instance the "administration of gaseous extracts," or "bergous treatment," may we not hope that these recent investigations may give us something more tangible and more reliable than we yet possess.

ESSAY.

NEW REMEDIES.

By THOMAS H. RUSSELL, M.D., NEW HAVEN.

[Read before the meeting of the New Haven County Association.]

During the last few years several new therapeutic agents have been brought to notice which will fair to obtain a prominent and permanent place in our *arsenal medico*. The search for a perfect antipyretic—a drug whose sole action is the lowering of febrile temperature—has brought to light antipyrine, thalline, kairine, and antifeline.

Antipyrine is derived from coal-tar and is a synthetical alkaloid, prepared from chinoline by Dr. Knorr of Erlangen. It is of a very light yellow, almost white color, soluble in five parts of cold and three parts of warm water. It is soluble in alcohol and ether, and its solutions are neutral and stable. It has a bitter taste (less so, however, than quinine), and is less disagreeable than kairine. Its taste can be disguised by addition of cherry wine. Fehline first drew attention to its value as an antipyretic. His statements as to its great value as an antipyretic which will effectually reduce high febrile temperature, have been completely substantiated by many late observers. So many observers agreeing in the favorable verdict as to its power, that it will probably hereafter occupy a very prominent place in our *arsenal medico*. Many consider it more valuable and certain than quinine. The discovery of its therapeutic value is so recent that no mention of it is made in any dispensatory, and I believe that 'Eingers' Therapeutics' (last edition) is the only work of the kind to mention it. Its literature is only to be found in recent medical journals.

When antipyrine is administered, the temperature commences to fall in from one to two hours, and continues falling for a period of from four to six hours, when the maximum fall is reached. The

pupils are uniformly dilated. It is freely eliminated by the kidneys, appearing in the urine three hours after ingestion. Elimination is at its height at four and continues for twenty-four or thirty-six hours. Vomiting but rarely follows its use (some say, never), and in those cases where it has occurred, was probably predisposed to by other causes. It has been given hypodermically in aqueous solution with very good results. Dr. Westbrooks of New York, reports its remarkable efficiency in two cases of sunstroke, with very high temperature. In one of these the rectal temperature was 102° . A drachm of 50 per cent. solution of antipyrine was injected hypodermically. In forty-five minutes the rectal temperature was down to $100\frac{1}{2}^{\circ}$, and the injection was then repeated. Half an hour later the rectal temperature was only 98° . The case recovered. In a second similar case the rectal temperature was 110° . A hypodermic injection of 30 grains of antipyrine reduced the temperature in thirty minutes down to 101° . This case also recovered. The injections produced but little irritation. Surely such results are astonishing and could hardly have been obtained by any other agent. In a few cases, abscesses or sloughs resulted from the hypodermic injection, but it causes less irritation than quinine when used in this way. When patients cannot take it by stomach, owing to obstinate vomiting, it is quite successful when given in solution by injection per rectum.

Prof. Koush in Prague, used it in this way in an especially dangerous case of typhoid fever with great success, the temperature falling promptly and vomiting ceasing. Collapse which makes the administration of kalium and sodium dangerous, seldom or never follows antipyrine. The sweating stage, which is so marked after kalium, is not unpleasantly marked after antipyrine. After prolonged use of antipyrine, exanthematous symptoms are observed. The eruptions differ widely in shape and form, some resembling measles, others scarlatina or urticaria hemorrhagica. These eruptions affect the trunk of the body—the face and upper part of the neck remaining free. This rash may disappear in spite of the continued use of the drug. It may cause some cardiac depression, and care may be needed in giving it when pulse is very weak. There is no proof that it really *shortens* any disease, and is to be regarded only as a safe and reliable reducer of temperature. Only one case is recorded where it may have caused death. It acts as an antipyretic by diminishing the production of

heat, for the fall of temperature commences before the patient begins to sweat. It is also certain that it increases heat dissipation, and is therefore an ideal antipyretic. The fall in pulse is not always equal to the reduction of temperature. It increases arterial tension. It does not interfere with appetite or digestion. It is slightly diuretic and diaphoretic. It quickens respiration, and increases flow of saliva. As the temperature falls, the tongue almost always becomes clean and moist. It appears to be especially valuable in typhoid fever, pneumonia, and tuberculosis. It is not an antiperiodic. It is in cases of high febrile temperature (above 102°) that its value is most conspicuous. It may be given in three hourly doses each of 15 to 30 grains, and then no more to be given until temperature rises, or smaller doses of 15 grains several times daily. It may be given in powders or in aqueous or alcoholic solution.

The conclusion to be arrived at, is, that antipyrine is a prompt, reliable, and powerful antipyretic, very valuable in this treatment of acute febrile disorders.

The doubt and scepticism which antipyrine—like every new drug—had to encounter, has been superseded by a considerable degree of confidence in its great remedial value.

Thalline was brought to notice by Dr. V. Jaksch. It reduces temperature certainly and effectually, doing so mainly by increasing the dissipation of heat. The increase of dissipation is much greater than production. Its effect upon heat production is variable even in the same dose, and is less than antipyrine. The maximum fall of temperature occurs in one to four hours.

The duration of the antipyretic effect of thalline is only half that of antipyrine. Thalline is just as likely to cause eruptions, and rashes are more likely to follow it than antipyrine. It is liable to produce collapse. It is best given in the form of sulphate of which the dose is 2 grains. It has been but little used as yet, and thus far ranks below antipyrine as an antipyretic.

Kainine is prepared from chitoline. Its use has been practically given up, for it is more likely than antipyrine to cause collapse. It may be given by mouth in doses of 7 to 15 grains. Being slightly insoluble, a small quantity of hydrochloric acid is to be added to the solution (1 drop to 10 grains). It is easily oxidisable

and its solutions soon turn to a dark cherry red color. It lowers arterial pressure, and the pulse becomes quicker and assumes a filiform character and respiration becomes irregular and the secretion of saliva increases. It lowers temperature by decreasing heat production and increasing heat dissipation.

Antigléine, or *Acetarsilide*, is produced by the action of heat on acetate of sodium. It is a white crystalline odorless powder, and burns the tongue slightly. It is very soluble in alcohol, but requires 160 parts of cold water for its solution. It is neutral; not very unpleasant to the taste, and is very cheap, costing only about 25 cents per ounce.

It is a pretty certain antipyretic in doses of 4 to 8 grains, or even 15 grains, having, grain for grain, four times the power of antipyrine.

As an antipyretic its effects commence in one hour, reaching its maximum in four hours and ending in about ten hours.

It reddens the skin and causes perspiration. In large doses it causes cyanosis.

It lowers the pulse rate and increases its tension. Does not disturb the brain or stomach nor impair appetite. Its antipyretic action is chiefly due to uniform increase of heat dissipation. It has less power than antipyrine in diminishing heat production. In short, it appears to be worthy of further trial as an antipyretic. From the testimony thus far given it appears to be less safe and reliable than antipyrine and that antipyrine is to be preferred. It has not received as fair a trial as antipyrine, and is strongly endorsed by some who have used it.

It would appear that *Paraldehyde* is a therapeutic agent which is being too much overlooked. It was introduced into therapeutics by Corvelli in 1881. It does not seem as yet to have attracted much attention, but there is strong testimony as to its value as a hypnotic. It is still on trial.

Above the temperature of 51° Fahrenheit it is a colorless liquid. It is soluble in eight parts of water, and has a disagreeable ethereal odor. The great objection is its disagreeable taste, but this can be avoided by giving it per rectum.

It slows pulse and respiration and diminishes arterial tension. It thus resembles chloral and chloroform. It depresses the heart less than chloral, and it may be used, therefore, in cases in which cardiac weakness would contra-indicate chloral.

Its effects are usually rapid. After a dose of 50 minims quiet, dreamless, and refreshing sleep follows in from five to fifty minutes and lasts from two to six hours, and there is no confusion of ideas when the patient is roused. It may cause transient excitement and acceleration of pulse before sleep is produced. No bad after effects, such as headache, nausea, or depression are likely to follow, and it may be continued for months. The effect of paraldehyde is more transient than chloral, but it is a safer agent. It is not likely to cause nausea nor vomiting. In toxic doses it weakens and destroys sensibility, reflex action, and voluntary power.

It is excreted by the breath, which may retain the odor for one or two days. It acts also as a diuretic of very moderate power.

It appears to be superior to chloral in nervous insomnia (not complicated by pain), especially in that resulting from the abuse of alcohol. It is less irritating than chloral, and better borne by the stomach. It is, however, even less analgesic than chloral. When, therefore, insomnia is due to pain, paraldehyde is inferior to chloral.

Paraldehyde is especially useful in mental alienation, and has been especially successful in maniacal cases. In epilepsy and hysteria it has done well.

It is efficient in the form of enema, and is more efficient as a hypnotic when so used than is chloral. The enema may be made up as follows:

℞ Paraldehyde,	3ss
One yolk of egg.	
Infusion of marshmallows,	℥iv.
— for enema.	

It should not be used hypodermically, for it is said that when thus used it is pretty certain to cause pain and often abscesses.

The usual hypnotic dose is from 3ss to 3ij. Even 3ijss has often been given without bad result.

Water is a suitable menstrum.

The following is a brief résumé of the principal points concerning hydrochlorate of cocaine, as gathered from a careful search of medical journals for the past two years.

It produces a localized anesthesia when applied to the skin or mucous membrane, and its action is extended more deeply by hypodermic injection. Its anesthetic action is purely local and

very limited, extending only as far as the drug comes in contact with the tissue. A hypodermic injection of 3 per cent. solution produces anesthesia commencing in three and lasting twenty-five minutes. Complete over an area of three centimetres diameter and partial for distance of three centimetres further. The cocaineized area becomes less vascular. Applied in solution to the unbroken skin it has but slight effect—only causing a sensation of warmth, slight local anæsthesia, and barely perceptible local anæsthesia.

The nerves of special sense cease to convey their peculiar impressions. The cocaineized mucous membrane of the nose ceases to appreciate odors and the tongue loses its taste, this effect lasting from twenty minutes to an hour. It dilates the pupil as much as atropine. Administered by the stomach in doses of $\frac{1}{4}$ of a grain, three times daily, it removes sensation of fatigue, enables one to perform more manual labor, and to subsist on less food. Given in this way its effects are prompt, like those of an alcoholic stimulant, but are not followed by the depression which follows a stimulant.

In man it produces no effect upon the intellect, except a stage of excitement with exhilaration, or rarely depression, but it is probable that the toxic dose for man is very large. As much as 20 grains have been given by stomach without toxic results. It kills by causing cessation of respiration. It constricts the arterioles, especially in small doses, and stimulates the heart and thus raises arterial tension. Large doses slow the pulse and cause a fall of temperature. It lessens respiration, saliva, gastric juice, and tears.

It is eliminated by the kidneys and acts in doses of one grain three times daily as a diuretic of moderate power. Its diuretic action persists for several days after the last dose. Small doses increase and large doses diminish intestinal peristalsis. It is chiefly useful in ophthalmic practice as a local anæsthetic. A twenty per cent. solution applied to the larynx allows of examinations and operations without difficulty or pain.

The pain of tonsillitis is greatly relieved by frequent painting with four or six per cent. solution. A twenty per cent. solution applied to the nasal mucous membrane greatly relieves hay fever or acute coryza.

A few drops of two per cent. solution injected into the urethra relieves the painful erections and smearing of an acute gonorrhœa.

It should be retained in the urethra four or five minutes and be repeated every three or four hours. An injection of four or six per cent. solution enables us to pass sounds, catheters, and other instruments without pain. The intense itching of scrotal eczema, or pruritus ani, or pruritus vulvæ, yield at once to a six or eight per cent. solution.

Painful lesions of the rectum can be relieved by rectal suppositories containing 3 to 4 grains of cocaine, and of the vagina by 10 to 15 grains introduced by suppository into the vagina.

The severe pains of scalds or burns can be relieved by painting with six or eight per cent. solution. Various forms of neuralgia can be relieved by hypodermic injections of one-third or one-half grain in the course of the nerve.

In the treatment of craving for alcohol and the morphine habit cocaine has been found very useful.

It promotes appetite and digestion, and produces a feeling of calm and contentment. It relieves fatigue, and is second only to alcohol in its food-replacing power. A hypodermic injection of a few drops of eight per cent. solution greatly relieves the pain accompanying fractures. A five per cent. solution painted over the cervix mitigates the pains of labor.

As an application to sore nipples a two per cent. solution, frequently applied, not only relieves pain, but speedily heals the fissure; but a stronger solution might be preferable.

As a local anesthetic in circumcision I have found it completely successful in four per cent. solution.

In operations for fistula in ano it has proved somewhat useful, but not completely satisfactory when the fistula is deep. In the removal of sebaceous cysts and other small tumors it is very satisfactory when used hypodermically in four per cent. solution.

By the method of Dr. Corning, both he and Dr. T. E. Varick (*New York Medical Journal*, February 20, and January 2, 1886,) have successfully and most satisfactorily performed thigh amputations with no other anesthetic than cocaine. For the amputation of fingers and toes it is very satisfactory.

I have repeatedly noticed that when patients have come to me suffering from crushed fingers or hands and faint from pain or hemorrhage, that the hypodermic injection as a local anesthetic for the operation not only relieves the pain from the injury, but by its action upon the heart and arterioles at once restores faintness.

and agreeably stimulates and strengthens the patient for the operation to follow. It thus serves a double purpose.

Hydrochlorate of cocaine when kept in solution is liable to undergo change, and a fungus develops in it which renders the solution too irritating for use. This can be prevented by adding three-fourths of a grain of salicylic acid to each ounce, or still better, according to Dr. Squibb, by adding boric acid in one-half of one per cent. solution. The former is irritating and the latter is not.

The dose by stomach is given at from $\frac{1}{2}$ to 3 grains.

Its effects are not cumulative.

Special caution should be exercised in using cocaine on young children.

Cocaine, although a recent addition to our materia medica, has already proved itself a most valuable therapeutic agent.

I would urge all to read J. L. Comings' article on Cocaine in the *New York Medical Journal* for January 2, 1886. It describes his original method for producing with weak solutions prolonged and extensive local anesthesia sufficient for major surgical operations.

I can only refer briefly to *Urtica*, a new hypnotic which may prove a valuable addition to our materia medica. It is soluble in water, and may be given in doses of 15 to 30 grains. It produces physiological sleep with little if any disturbance of the secretions. As it does not produce local irritation, it is well adapted for hypodermic use. Rottenhiller reports having used it 246 times hypodermically. He found $7\frac{1}{2}$ grains a small dose. In a few cases he injected 30 to 60 grains. Sleep was produced in 15 to 30 minutes. No unpleasant effects followed, except vomiting, in one case. It slows the pulse, increases arterial tension, and lowers temperature. Favorable reports show that it merits further trial.

I would call the attention of the society to the importance of the collective investigation of some of the above new remedies. It could be conducted in a manner similar to that published in the *Proceedings* for 1885, pages 59-72.

ESSAY.

IS SMOKING INJURIOUS?

By DR. A. E. ADAMS, M.D., DANBURY, CONNECTICUT.

(Read before the meeting of the Fairfield County Association.)

Nicotine is the active principle of tobacco, and the opponents of smoking claim the smoker is poisoned by it. But some authors (Americans) claim there is no nicotine in tobacco smoke. They say the principal parts of tobacco smoke are composed of oxygen, nitrogen, carbonic acid, and marsh gas. I shall try and prove that this is true, and if any, there is only a small quantity of nicotine in the smoke, and when smoking is indulged in moderately by the healthy adult is not only harmless, but, in fact, is a decided benefit, especially to those who are obliged to do a great deal of brain work.

Richet found in his patient with gastric fistula that when the salivary secretion was stimulated it caused a proportionally strong flow of gastric juice. This repeated stimulation of the gastric mucous membrane, causing hyperemia and secretion of the acid gastric juice, would eventually cause disturbance of digestion. There is no doubt but that when carried to excess smoking causes dyspepsia. I believe that this is the primary cause of all the constitutional troubles caused by excessive smoking. I do not believe that smoking will cause disease except in this way, and anything else which disorders digestion may give rise to the same train of symptoms which is credited to smoking.

Opponents of smoking will tell you it is the nicotine. If I could prove that there was no nicotine, or only a very little, in tobacco smoke, then they might say that carbonic acid and marsh gas were enough to oblige it.

I presume you will all admit that Havana cigars are the strongest as well as the most pleasant flavored. I use the term strongest

here to denote the amount of cerebral effect, and not the effect on the gastro-intestinal tract which you might get from smoking a very cheap cigar. It is claimed as a fact that Havana tobacco contains less than two per cent. of nicotine, while our own domestic tobacco contains between seven and eight per cent., and yet we consider our best brands of domestic cigars milder than Havana cigars. Now, if that were the case, how would you account for the results of smoking on the nicotine theory?

It seems probable there are three factors which contribute to the effects of smoking. The first of absorbing carbonic acid, marsh gas, etc., instead of air with a proper proportion of oxygen, and, secondly, a small amount of nicotine, which finds its way into the system either in the smoke or from direct contact of the tobacco and mouth, or both. Thirdly, by hyperæmia of stomach. You know that the end of the cigar which is lighted, if allowed to burn for a moment without drawing or blowing on it will give off a bluish smoke; this is carbonic oxide gas uniting with the oxygen of the air and forming carbonic acid. If the smoke is drawn into the mouth and is expelled you do not see the bluish tint. Thus you see the air is deprived of a part of its oxygen and carbonic acid is formed while it is yet in the mouth and bronchial tubes, and it is supposed that a part of the carbonic acid is absorbed and the system is gradually loaded with carbonic acid, instead of unloading or exalating it as normally. I do not believe that nicotine is ever absorbed in sufficient quantity to account for the exaggerated symptoms claimed to be caused by smoking. As I have said before, I think it probable that it is the combination of three factors.

Sir B. Brodie's experiments have proven that nicotine affects through the nervous system. When the sympathetic system is stimulated the vessels contract and the blood passes through them more slowly, and is therefore converted into venous blood more fully during its passage. This stimulation of the nerve reaches a point where it is stimulated no longer, and then commences a torpor or inefficiency of power which may result in partial or complete paralysis of action in it. This result I presume may be partially due to the accumulation of carbonic acid in the blood.

When the influence of this nerve is diminished the effect is the reverse of what we have found from stimulation. The vessels dilate and the blood passes through them with much greater

rapidity and the blood is found of a brighter color. It is the beginning of this first stage that the subject begins to feel the languor and relaxation. If the smoking is continued it is followed by the unpleasant sensation of confusion and vertigo, which is due to hyperemia of the brain, caused by insufficiency or partial paralysis of the vaso-motor apparatus. If the smoking is still persisted in the effects are, as most of you know, not as pleasant as the first effect. The ideas are confused, the pulse weak, respiration labored, the surface becomes cold and clammy, and is often bathed with a cold sweat. Nature acts as the physician for this miserable being, and he immediately seeks the pure out-door air, where he can exchange his load of carbonic acid for oxygen.

It is very common to have palpitation of the heart, the result of congestion of the central ganglia, and palpitation of the heart is frequently met with in habitual smokers. Yet Bartholin tells us that nicotine does not affect the heart. Sir B. Brodie found that if the head of an animal was removed previous to administering nicotine, and artificial respiration kept up, the heart remained unaffected. If nicotine caused palpitation, etc., one would suppose chewing the weed would cause it more than smoking.

It is claimed by some that the smoker becomes habituated to the nicotine, and therefore it does not affect him after using it a little. Now one may chew tobacco for years and the first cigar he tries to smoke will probably nauseate him, and if it was due to the nicotine in the smoke I cannot explain it. Will any one doubt the ability to swallow twice as much nicotine without any apparent effect as was ever claimed to be contained in the few puffs of a cigar or pipe which will make a man sick the first time he tries it? The objections to smoking on account of the carbonic acid and marsh gas can be disposed of easily. With plenty of pure air containing a sufficient amount of oxygen, carbonic acid is rendered almost or quite harmless. With regard to the marsh gas I would quote from Fown's "Chemistry." It says: "It is not poisonous, and may be respired to a great extent without apparent injury."

It seems to me probable that the soothing and tranquillizing effect of smoking was due to the flux of blood to the stomach, and also to inhaling carbonic acid, marsh gas, nitrogen, etc., contained in the smoke. This would also account for the giddiness and delirium which is experienced when one smokes to excess. This is usually especially well marked when one smokes his first cigar,

and, not being accustomed to it, probably inhales more smoke than an old and experienced smoker would.

Attempts have been made to prove that smoking lessens mental vigor. This can easily be proven a mistake as far as permanent effects are concerned. We have only to look at some of our greatest statesmen who are inveterate smokers. I find it reported that Mark Twain said he needed three hundred cigars a month, and wrote with greater ease under their inspiring influence. Mr. Alibon, the famous conspirator, said "smoking kept a man quiet for an hour after dinner, and was a great thing for digestion." Robert Buchanan thought that "tobacco was invaluable." Paul Bert said: "The use of it in feeble doses affords to many persons very great satisfaction, and is altogether harmless and inoffensive." Wilkie Collins said that "tobacco was the best friend his irritable nerves possessed" and he added, that "when he read learned attacks on it it greatly increased the relish of his cigar." Mr. Darwin "found that two little paper cigarettes of Turkish tobacco rested him when he was tired." Professor Dowden said "a smoke soothed away small worries and reduced little irritating incidents to their true proportions." James Payne, who had been an arduous literary worker for thirty years, said "he smoked the whole time while engaged in composition." Dr. W. H. Russell said "tobacco comforted and sustained" him. M. Tain, the witty Frenchman, declared that he found smoke useful between two ideas: when he had the first, but had not arrived at the second. The famous Dr. Isaac Barrow called his pipe his *parapharmakon*, or cure for everything.

Beside these many medical men of repute are devoted disciples of smoke, and I must hold the opinion that it is a benefit for these men to smoke, as it is a sedative and quiets restlessness due to mental disturbance which comes from overwork, and gives a feeling of repose which, if once experienced, is very apt to be tried again; and this, in my opinion, is the only danger from smoking. Overwork and moderate smoking is good, but overwork and immoderate smoking is very bad, because here you increase the hyperæmia in the already congested brain.

It is true anastrosis sometimes occurs in habitual smokers, but it is very rarely attended by actual atrophy of the optic nerve, and is generally very amenable to treatment. It certainly must be very

rare, for Dr. Boon says he "has never seen a case of amblyopia positively traceable to tobacco."

Attacks of indigestion may produce temporary amarois; it also occurs in people who never smoke, and it is the exception and not the rule to find it in habitual smokers. Parreira says: "In habitual smokers the practice when employed moderately provokes thirst, increases the secretion of saliva and buccal mucous, and produces a remarkably soothing and tranquillizing effect on the mind, which has made it so much admired and adopted by all classes of society and all nations, civilized and barbarous."

Allow me to quote again from the same author. He says: "I am not acquainted with any well-ascertained ill effects resulting from the habitual practice of smoking." A similar observation is made by Dr. Christison. Smoking is frequently condemned on account of its supposed tendency to cause throat and lung disease. Cigarettes are especially condemned. Bowworth says: "Cubans are perhaps among our most inveterate smokers, and that in its worst form, in the use of cigarettes, and yet they suffer somewhat rarely from throat catarrh." Smoking was first introduced into England by Sir Walter Raleigh in 1716. The "American Cyclo-pedia" tells us that "although cigars are of very ancient origin in the West Indies, they were not generally known in Europe until the beginning of the nineteenth century."

The average number of pounds of tobacco consumed varies in different countries: the Spaniards use a very light tobacco and use it in the form of cigarettes more than other countries. They average a little more than one pound per capita. Italy, Great Britain, Prussia, and Hungary average between one and two pounds; France, Denmark, Norway, and Austria between two and three pounds; Germany and the United States between three and four pounds; Holland between four and five pounds, and Belgium five and a half pounds.

As far back as 1875 the tobacco crop in the United States alone was estimated at \$29,400,400 after it was packed. Now, if you add to these figures the cost of labor in preparing it for use by the consumer and the profits made by the dealers, you can see what an enormous amount of money is expended for this luxury.

If the use of tobacco was really such a dreadful habit, what would the result be in the twentieth century if we continue to

consume it and the habit grows on us as it has in the last eighty-six years? When we look back and remember that tobacco was used but very little previous to the nineteenth century, we cannot help but see that there is something peculiarly attractive about its use that has made it so popular in every nation. I am sure it is not necessary to even hint that it is the good and not the evil effects which have brought about this popularity.

Opportunities for investigation are not wanting in any country, and opponents to its use are to be found in all countries, and yet the moderate use of tobacco in the form of a cigar, or smoked in a pipe, stands before us to-day as a harmless luxury. I do not believe there is any more harm in smoking a cigar or pipe after eating than there is in drinking tea and coffee. Any luxury carried to excess carries with it a penalty. For my own part I consider that smoking acts as a sedative and equalizer of the temper, assists digestion, and is a medium of sociability among men which should not be discarded.

ESSAY.

THE ALCOHOLIC QUESTION MEDICALLY CON- SIDERED.

By T. D. CROMBIE, M.D., HARTFORD, CONN.

The famous Dr. Tully wrote fifty years ago, that "Alcohol was both the most dangerous and most valuable of remedies." The scientific studies of half a century have not only confirmed this view, but indicated the value and danger from the use of alcohol beyond the wildest theories of its most ardent advocates and bitter opponents. The prohibitionists and alcoholic Nihilists have never realized its real danger and injury to the race. Neither has the most enthusiastic disciple of the Todd and Bequest school ever received its place or real value in therapeutics. One reason for this is, that alcoholic compounds are the most uncertain, unknown, and empirically used of all substances in medicines. Compounds of whisky, brandy, gin, wine, and rum are never the same, but are forms of alcohol constantly changing, developing others whose action on the organism of the body in health or disease is exceedingly variable and uncertain.

As an illustration, alcohols vary in their origin, mode of preparation, condition, and surroundings, and have different effects on the organism, subject to a great variety of conditions. The alcohol of stimulus made in a similar way may differ widely, both chemically and physiologically. The alcohols of one year may vary in their effects the next year. Chemical changes have taken place, and new compounds and ethers have been formed. The ordinary alcohols of commerce, which are ordered with care for fear of the adulteration with foreign substances, may contain the most uncertain ethers and poisonous forms of alcohol that can only be accor-

tained by skillful analysis. The effects will vary widely, and be ascribed to other causes.

Some faint conception may be formed of these compounds of alcohol, from the experiments of Beaumont and Audge. They gave two years of study and experiments to this subject, and succeeded in separating and experimenting with six different alcoholic classes. Some of these classes of alcohols likely to be found in any of the liquors on the market, were motor paralyzants of the muscular system. Others had a peculiar irritative action on the brain; others acted on the spinal centers; some were distinctly anesthetics, destroying sensation, acting on the heart specifically, and so on.

Dr. Richardson, in his experiments to find a safe and reliable anæsthetic from alcoholic ethers, has outlined a vast field of new combinations of alcohols whose effects on dogs and other animals are simply marvellous. Ether, chloroform, chloral, and other agents which have revolutionised the art and science of medicine are all forms of alcohol. All studies in this direction indicate still more wonderful compounds yet to be discovered, of which these may be literally only samples. The old alcohols of commerce, whose bouquet and qualities are prized, contain these complex unknown ethers, which await future discovery.

The present methods of using alcoholic drinks or medicines, with no other facts, except the name and the supposed per cent. of alcohol, and no knowledge of the kind of alcohol other than its age, are exceedingly empirical and unscientific. The only safe way in which any form of alcohol can be used as a medicine is in fresh new wine or grain spirits. Never give any of the popular forms of alcoholic drinks; they are uncertain and unreliable. The possibilities of finding in alcohol remedies which will suspend, alter, or change diseased action in many ways, exceed the wildest dreams of therapists, and are more certain every year. While all scientific research indicates the most startling discoveries of new remedies in this field of alcoholic compounds, it also points out unknown perils and dangers in the present indiscriminate use of spirits. The scientific investigator is startled at the effects of isolated alcohols on the lower animals. These very alcohols reproduce many of the common drinks of commerce, and their effects on the human organism are the same, only modified and concealed.

It is evident that our inability to obtain a full history of these cases prevents such a recognition.

Many cases of serious and fatal diseases will be traced in the future to these complex alcohols. It is also evident that alcohols are far more responsible in causing disease than is supposed. The influence and teaching of the medical profession on this great popular drink question is most imperatively demanded. To condone or use alcohol indiscriminately as a beverage or medicine, or to denounce it dogmatically, reflects on the scientific intelligence and judgment of the physician. The physician should be the teacher in every community and not the follower of theories, maxims, and temperance reformers, or advocates of spirits. As a scientific man, the physician should know the facts and the progress of research in this direction and be himself an investigator. He can procure isolated alcohols and test them in health or disease, on the lower animals or on man. He can trace the degenerations from alcohol which follow an observed order of events and point out the line of march, both anticipating and preventing it.

The "alcohol question" is a medical one that is destined to occupy a wide field of practical science. To-day it is in the first stage of agitation and superstition. The reckless sale of unknown alcohols, and the thousands of poor diseased imbibers, point unmistakably to our ignorance of the nature and character of alcohol. The confusing variety of remedies urged from the pulpit, rostrum, press, and legislative hall, all indicate the same ignorance. All this is but the thunder and noise that precedes the still small voice of science and truth, which the physician must interpret.

All the facts known of alcohol can be placed on a single printed page, yet a thousand volumes are written, and text-books are constantly coming from the press, to teach the nature of alcohol in the common schools as a lesson for checking the intemperance of to-day. Alcohol is without doubt the best known of any therapeutic agent in common use. The administration of different forms of alcohol, as whisky, rum, wine, and gin, for some supposed peculiar action on the body, is without any scientific reason or basis of facts. The observations of the most accurate observers using one form of alcohol, such as whisky, are contradicted by the next observer who may use the same whisky in the same cases. This confusion is never harmonized and never can be, because both the nature of the alcohol and its action on the body are unknown.

Medically and scientifically the whole subject is a "polar region" of mystery. There is no other way of discovering the facts, except by accurate study, and slow, laborious marches into this region, where the observations of yesterday must be continually compared and corrected by the revelations of to-day. It is too early for physicians to teach authoritatively other than that alcohol is a most valuable and dangerous remedy. Its value is not in the compounds of commerce, but in the primitive alcohols and ethers that are yet to be studied. Its danger is distinctly indicated in the effects of separate alcohols and ethers on both man and animals.

The moral, political, and social aspects of the alcoholic question must all turn on the investigations of physicians. The physician as an explorer must go ahead and map out the country, and show its people *how* and *how*, and the natural *laws* and *forces* which govern it; then the missionary, clergyman, law-maker and reformer can come in and be useful. To-day this is reversed. The moralist, temperance reformer, and legislator are trying to occupy and settle a territory that is unexplored, whose laws and inhabitants are unknown. The drink problem, and what to do with the *insobriety*, can never be settled, until studied by the physician; and the physician who joins the army of theorists, has failed to recognize the subject, or his duty in the world.

Some of the conclusions which the farthest researches of science indicate must distinctly to-day, may be stated as follows: 1st. Primitive or simple alcohols, or their ethers, are agents of most marvelous power over the organism. Ether, chloroform, and a few other of these combinations are examples. 2d. Researches show that these primitive alcohols are almost innumerable, and are present in all the compound drinks of commerce; also that they vary widely in their action on the organism of the body. 3d. The progress of research indicates, beyond all doubt, that many new and wonderful combinations will be discovered whose action on the body will far exceed the ether and chloroform compounds. 4th. Each step in advance reveals the error of proscribing all forms of common drinks of commerce. It also shows that only pure primitive alcohols should be used, such as fresh corn spirits, or spirits of wine. Even with these the most careful observation and discrimination are necessary, and the possibility of harm is always

premier. 3th. Alcohol is so very uncertain, and so little known, that it should only be used with great caution and care and under circumstances where exact observations can be made. 4th. It follows from this that all degeneration is a sign of imperfect knowledge and acquaintance with this subject, and efforts to reach and remedy the evils of the drink problem from the present imperfect knowledge of the subject must fail. 5th. Lastly, the physician of all others should study this subject from a purely medical standpoint; the facts can never be ascertained from any other way.

ESSAY.

NEURECTOMY OF THE TRI-FACIAL NERVE.

By M. STOKES, M. D., HARTFORD.

[Read before the meeting of the Hartford County Association.]

Neurectomy, the excision of a nerve, is sometimes confounded with neurotomy — its division. A distinction should be kept in mind; the one aims at permanent relief, the other can only promise temporary good.

The principle of excision is to divide the nerve above the disease, and to remove or displace such a portion of it as shall keep the divided ends at such a distance as to make reunion impossible. There is no exception to this rule as applied to the tri-facial nerve; all its branches may be subjected to this operation, chiefly the supra-orbital of the ophthalmic, the infra-orbital of the superior, and the dental of the inferior maxillary.

Having had occasion of late to give this matter some attention we shall give two recent cases that we have had, in the way of illustration, describe the principal methods of operating, and as we proceed make such criticisms and suggestions as have occurred to us in our studies on this subject.

We will first speak of the following case:

In November last, six months ago, I performed neurectomy of the superior maxillary nerve upon a man 75 years of age, assisted by Drs. Wainwright and Knight. I shall make no attempt to recite the clinical history of this case, extending over a period of some fourteen years. Let me briefly say that there was no recognizable cause for the neuralgia; no hereditary taint, constitution healthy, not subject to gout, rheumatism, syphilis, alcoholism, or even malaria; no evidence of any internal organic disease; nothing that pointed to any cerebral cause of disturbance, as vertigo,

headache, paralysis, local anesthesia, or mental derangement—no caries, or exostosis, or tumor in the track of the nerve. All the teeth, though sound, had in turn been extracted, sometimes with relief. The pain was severe; most of the time in the left cheek, central about the infra-orbital foramen—there was tenderness at this point.

During the long course of this disease, many physicians, at home and abroad, had been consulted, and it is safe to say that everything had been tried but an operation. This it was decided to have done. Death seemed preferable to the wearying and sacrificing paroxysms of pain.

A curvilinear incision was made along the lower border of the orbit; the periosteum was divided and lifted from the floor of the orbit, the eye being held upward by a spatula; the nerve, still bare in the orbital canal, was raised from its bed by a small blunt hook, and a ligature was applied. This ligature gave full control of the nerve. It could be stretched or changed in its direction, and by careful dissection the nerve was separated from fatty and cellular tissue, back into the sphenomaxillary fissure.

I had constructed a knife, curved so as to fit the posterior surface of the antrum, by which I expected to divide the nerve in the fissure. I had had no opportunity to try it before-hand on the cadaver, but I found that the edge, from the largeness of the curve, ran so obliquely upon the nerve that it could not be completely divided; contributing to this result was the intentional dullness of the knife and the toughness of the nerve. I completed the section with sharp-pointed scissors.

Since this operation, my attention has been called to a case reported in the *American Journal of the Medical Sciences* (April, 1883), by Dr. F. H. Gross, where he used, with the same idea, a knife with the blade shorter and nearly at a right-angle, with success. The blade of such a knife can be pushed in under the nerve, the handle to the nasal side, and turning the blade upward, it will sever the nerve upon the sphenoid bone as upon a block, near the foramen rotundum. In certain cases the entrance to the sphenomaxillary fissure may be so narrow as to embarrass this part of the operation; this will come mainly from the fullness or height of the antrum. I find upon the cadaver that I can gain room by slightly breaking and deepening the posterior floor of the orbit with a chisel; a lever or dilating forceps placed under the line

wing of the opened bone will accomplish the same thing. In this way we inflict no greater injury to the orbital floor than is done by the cutting and chiseling necessary in the sub-orbital operations.

The distance from the maxillary bone through the fissure to the foramen rotundum is short—about half an inch, but it is here where the interest centers in this operation. In this fossa we have the terminal branches of the internal maxillary, and, midway in this fissure, branches from the superior maxillary nerve leave for the sphenopalatine or Meckel's ganglion; a little farther forward the posterior dental branches are given off, and the infra-orbital begins.

The aim in this operation is to divide the superior maxillary nerve beyond its sphenopalatine branches; yet this may not be necessary, inasmuch as the nerves from Meckel's ganglion do not go to any distinctly neuralgic area. Gray states in his anatomy that the fibres from the superior maxillary can be traced through Meckel's ganglion on their way to the palate and the mucous surfaces. But the division should be beyond the posterior dental branches, and as the ganglionic and the dental branches are so close to each other it would be better to carry the division beyond both of these, to the foramen rotundum.

To return to our operation: After the division of the nerve we separated the integument from the face down to the infra-orbital foramen. We gathered up the mass of nerves going to the cheek with a hook, and dragged the divided nerve through the foramen, then putting the nerve into the loop of a threaded needle, we carried it down into the mouth, leaving the end which had been in the sphenomaxillary fissure suspended between the alveolus and the upper lip; this end was cut off even with the mucous membrane. The divided ends of the nerve were now some three inches apart, and the lower portion was looking in a direction away from the upper one. This feature of the operation was first suggested by Hodgson.*

The infra-orbital artery was divided with the nerve, but the hemorrhage was slight and no ligature was used. There was little pain following the operation. The nerve of sensation was gone. There was numbness of the face, lip, eyelid, and side of the nose. The patient made a good recovery and has had no pain since the operation.

The special feature of this operation was the plan to reach the

* *Transactions of the Am. Med. Association*, 1902.

nerve in the sphenomaxillary fissure from above the orbital plate rather than to go under it; also by the use of the ligature, the supposed idea of stretching the nerve was effected, its length thereby being much increased and the division made higher up. But the ligature is indispensable for the facility that it gives in holding and controlling the nerve.

Dr. Sands, of New York,* speaks of losing the gustatory nerve after dividing it upon the hook. If a ligature had been applied, an excision instead of a division could have been made by dragging the nerve first in one direction and then in the other.

We believe that the method adopted in this operation is safer and as effectual and less disfiguring than that of removing the antrum, which is the well-known Carroonian method, done by raising a flap upon the cheek; going through the front wall of the antrum with a trephine close to the infra-orbital foramen; removing the lower wall of the infra-orbital canal to expose the nerve; going through the posterior wall of the antrum with a gouge or trephine; isolating the nerve in the sphenomaxillary fissure and dividing it at the foramen rotundum. Langenbeck divides the infra-orbital nerve by running a knife inside the orbit along the external wall. He cuts the nerve just as it is entering the orbit. This would be forward of Meckel's ganglion and probably of the posterior dental nerve, so necessary to include.

We will next speak of the successful removal of the dental branch of the inferior maxillary.

Last December I was consulted by a woman, about 70 years of age, for neuralgia of the lower jaw. She had suffered greatly for five years and had consulted many, and among them eminent physicians, without benefit. Eating caused violent spasms, and she would go months almost starved. She preferred death to her sufferings.

On the following day, assisted, as before, by Drs. Wainwright and Knight, I removed the inferior dental nerve. An incision was made down the front edge of the masseter muscle from the upper line of the lower jaw around to its angle; raised the flap, trephined the ramus over the inferior dental foramen, ligatured the dental artery, placed a ligature upon the nerve, by which it was dragged downwards and divided as high as possible with scissors. An incision was then made opposite the bicuspids teeth, soft parts detached, and with a hook the nerve was raised. I attempted to drag down

*The Medical Record, Vol. 17.

through the mental foramen, but failed, as will sometimes happen. I then made an incision over the lower edge of the jaw, midway, raised the flesh, laying bare the jaw, then with a small circular saw driven by a dental engine, made two parallel cuts about 3-16 of an inch apart, through the bone, for an inch in length; this narrow piece of bone was lifted with the chisel, the nerve exposed and divided. The posterior part was taken out. The anterior was drawn through the mental foramen and the end carried down into the incision in the flesh. Between three or four inches of the nerve was removed or displaced. There was some suppuration, but there has been no return of the neuralgia.

There are besides several methods for dividing this nerve: it can be reached in any part of its course. Hodgen drilled into the jaw behind the last molar and drew the cut nerve out of the mental foramen. Should it be impossible to do this, the foramen can be enlarged and this greater freedom at the exit may enable it to be drawn out. I have found in the cadaver that I can cut the nerve with a tenotomy knife from the outside, entering one-half an inch anterior to the angle and going inside the bone to the place where the nerve enters the distal foramen. I have never seen this method mentioned. It can also be reached by an incision through the mucous membrane in the back part of the mouth; in this situation Whithead's gag would greatly assist. But neither of these methods give any opportunity to stretch the nerve, and its excision must be more limited.

The gustatory or lingual nerve is another of the large branches of the tri-facial. It is deeply placed throughout its course and is distributed to the papilla and mucous membrane of the tongue. Perhaps from being a special nerve of taste it is less subject to neuralgia; but in the destructive ulcerations of the tongue such as the cancerous affections, the pain is excruciating. We can understand this as we see the nerve running along the floor of the mouth, beside the tongue and the sublingual gland, involved in the hard and degenerative structures. Fortunately, in these cases a neurotomy is generally successful. Pains and profuse salivation instantly cease on the division of the nerve.

Hilton first proposed the division of this nerve. He made his incision between the second molar and the tongue. The nerve can be felt under the mucous surface at this point and through an incision made can be hooked up and divided as expected. Out

this locality is often the seat of the disease and the nerve could not be reached.

Moore in his operation goes back to the emergence of the nerve from between the internal pterygoid and the ramus of the jaw; making his incision just under the insertion of the pterygo-maxillary ligament. Whitehead's gag will greatly facilitate both of these operations. The gustatory nerve can be divided from without, much in the way that we have described for the inferior dental. In painful affections of the tongue and mouth, like cancer, this nerve should be divided.

The third division as a whole can be divided near the foramen ovale from without. First remove the zygomatic arch as a short flap of the masseter muscle raised from below. Then detach some of the fibres of the temporal muscle and cut away a small portion of the coronoid process. Depress or divide a part of the external pterygoid, and in a line inward from the posterior base of the zygomatic arch a little more than an inch, the *foramen ovale* will be found.

This seemingly severe operation will only be required when all the branches of the inferior maxillary are affected.

Dr. Hermann Gulcke, of New York, reports such an operation in the *Medical Record* Vol. 11. He removed one-fourth of an inch of the nerve, but the pain returned after several months. Such an excision was but little more than a neurotomy. Nerves will re-unite at the distance of an inch or more. If the nerve had been turned upon itself, a step not difficult or dangerous after what had been done, success would probably have followed. It could be done by putting a ligature upon the nerve and dividing the proximal end. The ligature should then be placed in the eye or loop of a long curved probe like needle and carried downwards in the course of the nerve tract, between the pterygoid muscles above and the pterygo-maxillary ligament and ramus of the jaw below; or the ligature could be caught in the loop of a needle having its eye in the point, entered from below inside the ramus.

Neurectomy is required for neuralgia of the supra-orbital or frontal nerve—a branch of the ophthalmic division of the trifacial. It can be best reached in the following manner: Draw up the eyebrow, and make an incision about an inch in length between it and the lid. Finding the supra-orbital notch or foramen, the nerve can be followed, running between the levator

periglossal and the pericardium, or half the depth of the orbit, where the supraorbital is reached. The nerve at this point can be divided by the scissors, and after being drawn out from the supra-orbital canal can be caught in the loop of the needle and carried its length under the integument of the forehead.

Such are some of the more usual resections of the trifacial nerve. An operation always of much importance, the last resort, justified when all other means for the relief of the excruciating paroxysms have failed. But an operation, if we are to judge from the general literature on this subject, held in disfavor by the profession.

Gross, as an American authority, in his *Surgery*, says: "Section and excision of the affected nerve have often been practiced for the cure of neuralgia, with results, however, by no means always satisfactory. Indeed, there is reason to believe from the facts that have been published upon the subject, by various surgeons, that both operations have generally proved unsuccessful; in many cases temporary relief ensued, but in nearly all the disease ultimately recurred with former violence."

Also, Thomas Bryant, of London, writes: "In obstinate cases of neuralgia, the division of the nerve has been performed with occasional success. It is not an operation, however, in favor of which much can be said. When the cause of the neuralgia is peripheral it may succeed for a time, but in these cases spontaneous recovery is not unusual, and when some central mischief is the source of the pain, the operation is not likely to be of service."

These remarks indicate pretty nearly the general sentiment of the profession. This unfavorable opinion is based upon the difficulty of determining the exact location of the disease; upon the amount of nervous impairment, paralysis, following the operation; upon the surprising reproduction of the resected nerve, and with it the re-appearance of the neuralgia. Now, add to this general feeling and statement of facts the actual difficulty in a thorough excision of the trigeminal nerve, and we are not surprised to find, as stated by Dr. F. L. Dennis in June, 1879, in the *New York Medical Journal*, in a brief resume of the cases of excision of the superior maxillary, that only twenty-one cases could be collected from all the literature on this subject, and half of these operations had been

done by American surgeons. But an analysis of these cases gives a favorable showing for neurectomy of the tri-facial.

On the other hand neurectomy of the spinal nerves has little in reason or in results to commend it. But the peculiarities of the tri-facial nerve upon which we depend for success in its neurectomy, are seen more strikingly, as we compare it with the spinal or mixed nerves.

The first feature that we notice is the shortness of the nerve. The spinal nerves are long, may be a yard in length; but the tri-facial is only of a finger's length or a few inches. It leaves the brain-center the largest of the cranial nerves, but subdividing even before leaving the cranium it quickly reaches its terminal divisions. We can take advantage of this brevity and so make our operation as practically to include almost the whole of any branch; for we can make the section even at the base of the brain — an extreme high operation; and, by turning the nerve upon itself, as we have stated, we carry the divided ends to the greatest possible distances from each other. We virtually perform upon the distal extremity of the branches a complete polynurectomy, if we may use the term. The nerve is henceforth incapacitated, and we believe that if the terminal branch of a nerve is removed that this branch is not reproduced. This is illustrated in a rough way by the destruction of the nervous pulp of a tooth, or in any case of amputation.

Again, the tri-facial is a simple nerve and, not like the spinal, made up of filaments of unlike functions. Divided into three large branches before it leaves the cranium, it goes to its destination as a sensory nerve. Its few anterior or motor fibres are gathered into the anterior branch of the inferior maxillary and go to the muscles of mastication, and hardly concern neurectomy.

This nerve has little of that delicate interlacing with others as seen in those which start out from large plexuses to go to the extremities. This simplicity of structure and function helps to determine the branch which is the seat of the neuralgia.

Again, as a rule the neuralgia of the fifth nerve has a peripheral origin, due to may be to various exposures, and to the course of the nerve through long bony channels, canals, and foramina; but in the spinal systems the location of the disease is often central. But even in regard to this central location, experience does not fully confirm the statement just quoted from Bryant, that neuralgia due to a central disease is not relieved by an operation. The cen-

that disease often requires the sensory impressions conveyed by the nerve to produce the neuralgic manifestations which cease when the nerve is divided.

In conclusion, we believe, as the disease of the tri-facial is generally peripheral, that its section will be successful if the proximal division is made high up, and the lower end turned aside so as to make reproductive growth and reunion impossible. That, on the other hand, where a so-called neurectomy has failed, it has been practically, from the limited excision, only a neurotomy. That a simple division of the tri-facial is sure to result in a restoration of structure and function, and with these, pretty generally, a disappearance of the pathological condition.

ESSAY.

THE ADIRONDACKS: A RESORT FOR HEALTH AND RECREATION.

By WM. S. TOWN, A.M., M.D., Rensselaer, Conn.

[Read before the meeting of the Fairfield County Association.]

"Out of the abundance of the heart the mouth speaketh" may be as true of the written as of the spoken word. It certainly was the source of the inspiration that led me to select for an essay, - "The Adirondacks as a resort for health and recreation." It is not possible for one to spend a few weeks in the wilderness of northern New York, entering into its pleasures with zest, and finding deep joy in every phase of nature and change of scene, and not feel impelled by pure enthusiasm to seize every opportunity to speak of its wonderful possibilities for health and rest.

Possibly neither my observations nor experiences were sufficient either to adorn a tale or point a moral, yet I am satisfied that I saw and heard enough during two short vacations in the wilderness of the southern Adirondacks to convince myself that whether for health or recreation this place offers superior advantages. As another season approaches when we shall have to answer the question, - "Whither shall I go?" a few words concerning this recreating popular resort may not be amiss.

In the fall of 1885, and again in 1886, it was my good fortune to spend a few weeks on the shore of Raquette Lake, and as a place for recreation I can speak without reserve. It was not in the heart of a primeval forest, the exact opposite of the busy, active life at home. The Raquette is the largest lake in the Adirondacks and one of the most beautiful. Many call it the queen of lakes. It is 1,770 feet above the sea level, and, in consequence of this altitude, the air is pure and invigorating. One pound a day was my average gain in weight, with a corresponding loss of

mental and physical rest and a revival of exhausted energy. The importance of rest is becoming more and more appreciated, not only for the restoration of tone and vigor, but as a prophylactic against disease. Physicians have a duty not only to practice but to preach,—the new gospel of relaxation. We admit the desirability of change—we should also teach that change of scene and surroundings should be sought under circumstances as fully removed from our usual experience as possible.

An easy railroad journey to North Creek, N. Y., and thence a ride of thirty miles on comfortable buckboards, bring the wanderer after health or recreation to Blue Mountain Lake, at the head of the Raquette system. He is now at the entrance of the most magnificent wilderness region within easy reach of our seahoard cities. Little steamers convey passengers through Eagle and Utowana lakes and Marion River to Raquette, the largest lake in the woods. It has a coast line of ninety-nine miles and, with the exception of one small clearing, is bounded by unbroken forest. The lake is diversified by islands, points, and promontories, or headlands, so that only a small portion can be seen at any one point. It is full of surprises—it is full of rest. I shall never forget what I saw on a September day from the summit of West Mountain, an elevation of about twelve or thirteen hundred feet on the west side of the lake. It was a perfect day, the temperature just at the point to make life out of doors one of complete enjoyment. The air was clear as crystal, and as far as the eye could reach nothing was to be seen but mountains, lakes, and forest. I counted twenty-one lakes, and knew that nearly as many more were within limit of my vision, but concealed by intervening hills. All the lofty peaks, Murry, Seward, White Face, Blue, Dix, Haystack, etc., standing like sentinels, were in sight. Frequent clouds floating past soon caused shadows to move across the surface of the forest, just tinged in all the glorious colors of autumn, and to chase one another in rapid succession. That scene fully repaid me, if nothing else could be recalled, as a result of my two visits.

Rowing the light, cranky, buoyant Adirondack canoe, accompanied by a guide through lake, river, and carry the entire length of any of the numerous chains, penetrating with him the wilderness and getting a taste of pioneer life by camping out over night, fishing for the wary bass or gummy trout, or hunting for deer, give

variety to a somewhat monotonous life. But that monotony is the beauty of the whole, for in it is rest—rest for mind and body.

The days were spent in some of the ways just mentioned. One could not read, he could not write. He would want to do neither. Out of doors one wanted to be. The evenings were spent in the open camp, with the camp fire, composed of a pile of burning logs, in front, which were made to burn brighter by the addition of brush, boxes, barrels, etc. There, reclining on a bed of fresh spruce and balsam boughs, we spent the evenings with song and story, while the hours passed altogether too quickly.

Our home was a so-called camp, built of logs and representing an outlay of several thousand dollars, the central portion of which is the sitting-room, with a large fireplace at one end, and at the sides doors leading to sleeping-rooms. Other buildings contained kitchen, dining-rooms, shop, ice-house, etc. Our diet was venison from the woods, fish from the lake, beef and mutton from Saratoga, and the delicacies of all climes and seasons nicely preserved in tin. There was every comfort, with nothing to distract the attention or arouse from lazy-eating except a few moments given each forenoon to the mail with letters from home, and news a day and a half old. If one is interested in the study of human nature, (and who in our profession is not?) he will find quaint and curious phases among the hunters and trappers whose lives are spent there.

This is one way to "camp out" on the Adirondack. There are others much simpler, much less expensive. A simple tent or a structure made of bark attached to a framework, may and does furnish shelter for a good many. Others stop with the guides or hunters, while several good boarding-houses furnish ample accommodations at reasonable rates.

But time will not admit of my dwelling longer on this portion of my theme. In February, 1879, Dr. A. L. Loomis read before the Medical Society of the State of New York an article, which called attention to the Adirondack region as a therapeutic agent. Since that time much has been written by medical and non-medical men, until public attention has been very forcibly directed to the region as a health resort. As a consequence, the number of visitors is increasing year by year. They go from all parts of the country, even from the West. Naturally, many go who are greatly

benefited; others find no benefit and some are made worse by the fatigue of the journey and a failure to adapt themselves to circumstances. To be enabled to advise our patients conscientiously, and with knowledge, it is important to know what diseases are likely to be benefited, in what stages help is promised, and when the journey is contra-indicated. In his paper, Dr. Loomis gives twenty cases of phthisis of which ten had recovered, six were improved, two had received no benefit, and two had died. Dr. S. S. Willmar, of Bloomingdale, N. Y., has published notes of nineteen cases, of which twelve were cured, six improved but died after returning home, and one received no benefit. Dr. Loomis' conclusions were, that the climate is better adapted to the treatment of catarrhal phthisis than of any other variety; that fibrous phthisis does better in higher altitudes — in Colorado, for instance — and that climate has little beneficial effect upon tuberculous phthisis. He also said that a larger proportion of phthisical patients are cured or benefited by a cold than a warm climate, and that a winter spent in the Adirondacks is more beneficial than a summer. At all events, it is conceded that a benefit secured by a summer's sojourn is rendered much more so by remaining through the winter. A patient with well-pronounced phthisis, going to the Adirondacks, should go with the intention of remaining, if he is benefited, a year at least. It is not a pleasant prospect to be turned there through the long winter months. I saw a young man, a patient of Loomis', who had spent three winters there and was looking forward to a fourth. The winter before he had attempted to live south and became worse so rapidly that he was forced to return to the Adirondacks.

Hay fever, asthma, catarrhal trouble of the throat and respiratory passages, functional heart disease, dyspepsia, and various nervous diseases, are benefited by a sojourn in this wilderness.

If we seek for causes we have only to mention the conditions existing there. First of all may be mentioned the dryness of the soil and absence of dampness in the air. When I entered the Adirondacks in 1885, it was said that it had rained every day, with two exceptions, for a month, and I have a vivid impression that it rained during the last few hours of our ride, as it fairly poured, and in the intense darkness it seemed as if the hydroëlic forces were forcing a stream all the way, yet on our arrival at our destination the next day there was no evidence of excessive rain-

fall to be seen either in the camp or on the soil without. There was no smell of mould or rust that we are accustomed to experience in Southern Connecticut during a damp spell. In 1886, the wet season was deferred till my visit, and with two exceptions rain fell every day, yet the soil and the superficial covering of decayed forest growth seemed to absorb all and leave no trace above.

The peculiarities of all the Adirondack lakes I have seen are the sharp, well-defined shores and absence of marsh and swamp. Evaporation from the lakes goes on slowly and the moisture of frequent showers seems to cause none of that damp, chilly condensation of the atmosphere we so frequently experience at home.

In the second place may be mentioned the purity of the air. The forests, almost devoid of life, are equally free from dust. The altitude, the uneven nature of the country, the porous soil, the superficial covering of decayed vegetation acting like a sponge, the absence of the decaying products of agriculture, all conspire to give a purity of air unknown in settled regions. The forests are composed of beech, maple, birch, spruce, hemlock, balsam, pine, and cedar, whose branches, especially of the evergreens, impregnate the air with odors, load it with balsamic odors, and make it highly beneficial to diseased mucous membranes. There is no dust to irritate, no poisonous germs to breed disturbances, no malarial influences to retard recovery.

The climate is capricious, though not subject to extreme sudden variations. There is a good deal of rain in the spring and fall; heavy falls of snow in the winter, and a dry spell in the summer, when the days are liable to be hot but the nights are cool. Last fall there was but one pleasant day during my stay; it did not rain all the time but was sure to rain some time during the twenty-four hours. The sun would go down clear, giving every indication of fair weather for the morrow. At ten or eleven o'clock the stars would shine brightly, yet before morning it would rain profusely and blow great gusts. Occasionally a snow-storm would add variety. If it rained too hard to be out, I would start the camp-fire, and spend the time in the open camp. In spite of the changes not one of our party experienced the slightest symptom of a cold.

Scattered through the Adirondacks we find many people who are undergoing a forced exile, finding a relief from physical symptoms by a continued residence. A return to their old home

brings on the old symptoms. Others have found relief which remained permanent even after returning to their old surroundings.

Whom shall we send? All who need rest, and will find pleasure and rest in wild wood scenes,—hunting and fishing. Any of our patients who have the diseases mentioned, if not too far advanced, will find benefit in the north woods, if they have a temperament to put up with some inconveniences. I deem it were useless for those to go who would find no pleasure, but on the other hand, would rebel at slight matters and feel the irksomeness of the life they must lead. Such persons would better remain within the limits of civilization.

Dr. Leconte's observations are confined mostly to the region of St. Regis and Paul Smith's. But there one finds that fashion has taken possession and the same artificial life that is characteristic of the larger watering places. That region is also somewhat cleared and more thickly settled. On the Raquette there are no large hotels. Life there is free and easy, as far as possible removed from the excitements of city life. The comparative difficulty of reaching it, *limits*, in a degree, the visitors to those who are of the same mind, and find a common sympathy in a love of nature. I would recommend the Raquette by all means to those who love nature, pure and simple.

Shall patients camp out? Not unless they have a special fondness for it, and are willing to submit to some inconveniences. A majority of patients will do better with the comforts of a room, well-cooked and regular meals. They can spend their days out of doors. To those who can, undoubtedly, sleeping in tents is decidedly beneficial, but if it proves unpleasant, the annoyance will more than counteract the benefit.

In cases of phthisis it is unnecessary to say the sooner the patients go the better, but all know how difficult it is to send patients away till it is too late. So many wait till death is inevitable that it is a common saying that consumptives only leave home to die. As a rule, it would be much better for such to remain where they can have the comforts of home and the loving, ministering care of friends. But I would not insist, beyond simple advice, the departure of those determined to make one more effort to live. We know too many examples of recovery of apparently hopeless cases to do contrary to this. The new hope that springs up with deter-

mined action often seems to turn the scale and give the doomed one an impetus towards health which ultimately results in recovery.

On the little steamer that took me to Raquette Lake last September was a middle aged gentleman, apparently in the best of health. He was making his annual visit to the spot where eleven years before he was borne, contrary to the advice of physicians and entreaties of friends. He had been pronounced fatally sick, and was an object of pity to all who saw him, as they thought how soon he must be carried back a corpse. He was taken to the log hut of a guide, who for a month cared for him, almost as helpless as an infant. He would take him in his arms and carry him to the boat and give him a row on the lake each day. He had cough, hectic fever, and night sweats. At the end of a month, he began to gain, and in five months he left the woods with restored health. I visited the spot later and it seemed to me an ideal place for an invalid. A little sandy plateau, about forty or fifty feet above the lake on the east shore; in front and open it was a small grove of Norway pines, and upon the north and east a thick forest cut off the heavy winds. There this man had struggled with a fatal disease, and with the help of the life-giving conditions of forest, lake, and air, had come off conqueror. Can we wonder that he visits that spot every year?

In 1885, I met a woman who had been taken into the woods on a bed. She was emaciated, had night sweats, and was thought to have but a few days to live. She soon began to gain, sweats stopped, expectoration nearly ceased, and cough was much ameliorated. When I saw her she had gained twenty-five pounds in weight in four months, was able to spend all of her days out of doors and thought herself nearly well. I could not learn her subsequent history.

Dr. Loomis is the only surviving member of his family, all but one of whom died of phthisis. He attributes his exemption to his vacations spent in the Adirondacks. Dr. E. L. Trudeau is a notable example of what continued life in the Adirondacks will do. Symptoms of phthisis became urgent in 1872. He spent the winter South without benefit, went to the woods in May on a bed, returned to New York in three months, having gained in weight twelve pounds, and with only a slight morning cough remaining, was soon taken worse and spent the winter in St. Paul without improvement.

In 1873, he again went to St. Regis, but did not improve as in the previous year. In September he was in a wretched condition. Dr. Loomis advised him to remain all winter. He began slowly to improve, and since that time has made it his home. He has gained twenty-two pounds in weight and presents the appearance of a person in good health. In his lungs, Dr. Loomis says, still remain evidences of his disease. He has made several attempts to remain in New York, but his old symptoms return in ten days.

If time permitted, I could cite scores of cases which have been reported, showing the beneficial results of a sojourn in the Adirondacks, but I have taken enough of your time. Personally, I hope that you who have not already done so will take a vacation, and go and judge for yourselves, and send your patients, suitable cases, there also.

ESSAY.

ON EROSIONS OF THE CERVIX UTERI: THEIR PATHOLOGY AND TREATMENT.

By E. W. CLEMENT, M.D., of Boston.*

[Read by invitation before the Connecticut State Medical Society, May 25, 1887.]

Of all morbid conditions of the uterus none is more frequently met in practice than what is spoken of as erosion, or ulceration, of the os, and I take it for granted that most physicians are only too familiar with the gross appearances of such cases.

It may be well, however, briefly to recall the classifications of Tyler Smith in England, and of Mayer in Germany, as showing how much can be learned by ocular inspection through the speculum, and post-mortem, without the assistance of careful microscopical work.

Tyler Smith's division is as follows:

- a. Simple red ring.
- β. Erosion and partial exposure of the papilla, leaving them bare of epithelium, the secretion being mucous, not purulent.
- γ. Superficial ulcerations with destruction of papilla, which he called granular condition of os uteri.

He also described under the head of cockscomb granulation, what is now called ectocervicitis.

Carl Mayer distinguishes

- α. Erosions and thickening of the lining of the cervical canal, which sometimes though seldom pass on to the outer surface of the vaginal portion, although by the thickening the lips are often everted, especially in women who have had children.

- β. Follicular excretions and ulcerations of the cervical canal

* The plates illustrating this paper are from advance sheets of the *Annals of Gynecology*, kindly furnished by Dr. Cushing.

with formation of cysts which may ulcerate. With this form occur the mucous polyps.

γ. Papillary erosions, where the papillae lying just under the epithelium are denuded, and are often stripped of the outer layers of their substance.

Ernst in 1874, and afterwards, insisted on the importance of ectropium, or eversion of the swollen mucous membrane of the cervix, with rolling asunder of the lip, showing what might readily be taken for an erosion, but is not necessarily such; although, particularly when there is a laceration of the cervix, secondary alterations of the mucous membrane do occur.

Other writers have in general followed the above classifications, differing on some points, but in the main, agreeing on what seems the most natural explanation of the appearances, viz. That there is first a loss of epithelium, laying bare the papillae, that then the latter are destroyed, forming an ulcer; the condition when occurring on the inside of the vaginal portion was supposed to commence in the follicles.

There was great difference of opinion as to the nature of ectropium, while the ovula nabothi were considered as retention cysts of the pre-existing mucous glands.

In the photograph, Fig. 1, from Ruge and Veit's work is seen Fig. 1. A simple erosion (Mayer).

Fig. 2. The minute anatomy of the same.

Fig. 3. A follicular erosion (Mayer).

Fig. 4. An ectropium of the mucous membrane of the cervix (Ernst).

Fig. 5. A portion of the cervix amputated.

I will not stop to describe more minutely the gross appearances. The microscopic figures, however, are very characteristic, and explain the position taken by Ruge and Veit that what are called erosions, ulcerations, &c., are various degrees of one process, which consists essentially in a new formation of glandular tissue, on the surface of the vaginal portion, or in the cervical canal.

The glands are formed by a reduplication, or sinking inwards, of the lowest layer of the cells of the rete malpighi, which are developed into a delicate cylindrical epithelium, which everywhere lines the glands as well as the parts between them. The latter forming

* Ziemann, Die Gynäkisch. u. Operativ., Band II, 1878. Martin's Atlas. Hart & Schuster's Hand book of Gynecology.

partitions grow upward while the glands grow downward; but still the projections thus formed are everywhere covered with a continuous layer of cylinder epithelium. The process goes on under the layer of flat epithelium which naturally covers the cervix, outside of the cervical canal; this layer is then lost, undermined as it were, but no proper erosion occurs. What was formerly considered as an erosion is a patch where the flat epithelium has been replaced by glandular formation; the so-called papillary form is where the partitions between the glands have grown upwards (not base of all epithelium, however).

The follicles and cysts are not usually enlargements of pre-existing ducts, which have been occluded, but are new-formed glands without ducts. In isotropium there is essentially the same process going on in the cervical canal and everting the lip.

The above described active formation of glandular tissue may spread over the outer surface of the vaginal portion, where few, if any, glands normally exist. It may even extend to the vagina.

In exaggerated cases it resembles cancer so closely that the best experts cannot make a diagnosis without the aid of the microscope. In a comparatively large number of cases, cancers of the cervix are preceded by this condition of gland formation, or, to state it otherwise, these so-called erosions when inveterate not infrequently become cancerous. A pathological condition of this kind, where normal tissues are wholly supplanted by new-formed glands is at least suspicious, and considered pathologically it is no wonder that it often serves as the starting point of cancer.

The importance of these researches of Ruge and Veit, of which I have given a hasty summary, is so great, and their bearing on practical gynecology is so obvious, that it is very strange that they have met with so little attention in America, although figured in the English edition of Martin's Atlas, and in the work of Hart and Barbour. There is hardly an allusion to them in the text-books in the hands of the professor here, and until recently they were ignored by most of our leading gynecologists in their writings. The original articles being thus inaccessible and neglected, I trust it may be interesting to consider some preparations which I have made while studying the diseased conditions of the cervix.

Before considering the latter, however, I will call attention to some pictures which I took from the living subject, as, although

writing in the diagrammatic attractiveness of the plate of Ruge and Voss, they show about what one can see in the speculum.

The first, Fig. 2, is a case of simple erosion of the cervix (after Mayer) in a virgin, who has for years been a sufferer from dysmenorrhœa, having an antelexion. It is important as showing that these glandular hypertrophies, being encountered in virgins, and being of the same nature, as we shall presently see, with the morbid conditions occurring in laceration of the cervix with ectropium, it follows that the latter condition is to be regarded not simply as a rolling asunder of the lips of a fissured cervix, as Krieger describes it, but as an eversion of the lips pushed apart by a glandular growth, which is the essential disease.

The next picture, Fig. 3, is from the cervix of a sterile married woman with chronic endometritis. A follicular ulceration according to Mayer. Here the glandular cysts can be seen as bright spots, reflecting the light from their convex surfaces.

The next picture, Fig. 4, is from a woman who had borne a child, then had a miscarriage, with subinvolution, metritis, and finally a high grade of laceration of the cervix, requiring excision of the glandular mass, which in hardness and general appearance closely resembled an inoperant cancer, but was not of that nature. The tissues were crowded with cysts, extending on to the vaginal portion, and as there was no fissure, it was impossible to suppose that this new formation of glands was in any sense an eversion of the cervical mucous membrane.

The next case, Fig. 5, shows a badly ruptured perineum, with a fissure of the cervix on one side. The lips as drawn down, do not show the eversion which they naturally had, but do show the edge of the red thickened mucous membrane, a mass of glandular neo-growth extending up into the cervical canal.

Fig. 6 shows an extreme condition where, after a double rent in the cervix, with complete rupture of the perineum, the glandular hypertrophy was so excessive as to cause a great ectropium, a red, secreting, fungous mass. The whole cervix was enlarged, and could easily be drawn down by forceps, as seen in the cut, so that the os uteri presented externally.

There is, however, another form which the glandular hypertrophy may take. Instead of growing in the tissue of the cervix, the glands, in combination with connective tissue, abundant small



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 6.



Fig. 5.



Fig. 7.



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 11.



Fig. 12.



Fig. 14



Fig. 15



cells and blood vessels may form polyps or semi-detached masses, which bleed easily, secrete abundantly, and thus exhaust the patient.

Fig. 7 shows a hemorroidal os, containing two such polyps, which by continuous hemorrhages had nearly exsanguinated the patient before she applied for relief.

In calling attention to the next figure, a microphotograph, I desire to acknowledge my great obligation to Dr. M. Grosly Parker of Lowell, for his aid and instruction in the making of microphotographs.

Figs. 8, 11, and 13, were taken by the light of a common petroleum lamp, and, as in this manner, without expensive apparatus it is possible for physicians to record the results of their microscopic work, I hope that great benefit will result from a general use of this fascinating branch of pathological study.

I am also under obligations to Dr. W. W. Gannett, of Harvard University, for the facilities courteously afforded me in the laboratory of that institution when I made the sections from which the photographs were taken.

Fig. 8 represents one of my sections as photographed by Dr. Parker with Hartnack 7. The amplification on the plate is about 400. It shows the normal mucous membrane of the vaginal portion at the edge of the cervical canal. It resembles a section of skin, that is, there is a well-defined layer of flat epithelium, a lower layer of rounder cells reaching down between the small papille, which come up at intervals, carrying the blood vessels. Between the tops of the papille and the cells of the rete malpighii you see a single layer of cylindrical cells forming a continuous row like the lining of a gland. I would call attention particularly to this, because it is from this layer, as Ruge and Vest discovered, that the glandular formation proceeds in cases of so-called erosion. I cannot help thinking, however, that these authors overstate the case in considering all erosions as of glandular origin.

The next plate, Fig. 9, is an enlarged photograph of a section from a cervix which microscopically certainly appeared to be eroded, and yet there are no glands to be seen. Nevertheless, an inspection of the specimen shows that the principle is the same, for you see that the cells of the rete malpighii are in very active

proliferation, and form processes which are growing downward, while, at the same time, the papillae lying between them are longer, so that the surface is actually raised. Between the patches, rapidly enlarging pouches of epithelium are places where the surface is depressed and flat, and there are no signs of papillae nor any distinct layer of flat epithelium.

The contrast between the patches, where thickening has occurred as above described, and the intervening depressed flat places, is so great that the surface would readily be classed as eroded, and yet in no place is the epithelial covering wholly lost, although the flat epithelium has disappeared in many places.

The next plate, Fig. 19, is from a micro photograph (40 to 50 diameters) of the pouches of proliferating epithelium surrounding the long and slender papillae, which here reach nearly or quite to the surface. The thickness of the epithelial layer is at least six times that of the normal layer (see Fig. 8). Each papilla is clothed with a layer of cylindrical cells, more or less distinct, and, of course, thus the lining of the glandular pouches is the same layer as the investment of the papillary septa. This continuous layer is preserved in all cases of "erosion," and it is precisely the breaking through of this layer of cylindrical epithelium by the cells contained in the pouches which, in constituting a real ulcer, also implies a cancerous invasion.

Fig. 15 is a photograph (100 x) of the depressed flat part, which shows, in the submucous portion, a great abundance of round cells squashed through the stroma, no papillae, and a total loss of the layer of flat epithelium, which can be seen at one end tapering away. The layer which represents the mucous membrane is a mass of rapidly proliferating cells of the rete malpighi, which take the color readily, and evidently clothe the subjacent stroma, in lieu of a better mucous membrane. I see no reason why this is not a fair example of a simple erosion, although Buge and Veil apparently do not admit the existence of such a condition. There is no sign of new formation of glands, such as I will show you presently.

Possibly in these cases medical treatment had brought about a cessation of the necrotic process and an attempt at healing with hypertrophy of the connective tissue. Yet the fact remains that, in what, after death, on examination, by the naked eye, by myself, and by others well qualified to judge, were considered as specimens

at slight erosions of the cervix there was no such granular formation as Hugo and Voet describe, but only what seemed to be a subsequent stage. I mention this because our ideas on the pathology of the condition of erosion are bound to have an important influence on our treatment, as I shall hereafter show.

The next plate, Fig. 12 shows two sections from an eroded cervix. In the first the cervical canal is included, and the other section is slightly more lateral. You observe the epithelium of the lip very much thickened, with long thin papillae, as in the other specimens already shown; but nearer the orifice the flat epithelium is lost, and there is an evident erosion. You also see between the lips a section of a small polyp, or mass of mucous membrane, which, in the original specimen, was pear-shaped and rather loosely attached. On the left is a large gland in process of development to form a cyst or *ovula nabothi*. In some places the whole epithelial layer seems ready to separate, and at one side it is lost, leaving the papillae bare, as described by the early authors. This, however, is a post-mortem change due to maceration, while the manner in which the epithelium is lost during life is by an undermining of its attachment by a growth of glands, such as can readily be detected here in many places with a microscope.

The next plate, Fig. 13 shows such a spot in one of the preceding sections, magnified three hundred times, as photographed by Dr. Parker. The enlarged papillae are seen at one side, rising up through masses of swollen flat epithelium, —everywhere, however, clothing the papillae, and separating them from their covering, can be traced the layer of cylinder epithelium to which I particularly called your attention in showing the first micro-photograph. Gradually, however, this layer becomes flat, and then dips down and is reduplicated, forming a granular space, and it is easy to see that the masses of flat epithelium above are thus undened from their resting place, and ready to fall away, leaving, as the process spreads, a red, raw-looking secreting surface depressed below the immediate border of thickened papillae, in fact a so-called erosion.

Fig. 14 shows such a gland which has pushed its way deep into the muscular tissue of the cervix, where, normally, no such gland should occur. This plate shows that, in speaking of glands, one does not refer to any mere folds of mucous membrane, but to a typical acinous structure.

Fig. 15 shows the arrangement of the glandular spaces in a mucous or glandular polyp. Here, however, the process is somewhat different, for instead of a loss of the flat epithelium of the cervix and a substitution for it of the glandular hypertrophy, in the mucous polyp there was exaggeration of the conditions obtaining in the mucous membrane of the cervix. The small points in Fig. 15 dotting everywhere the inter-glandular spaces are the nuclei of rapidly proliferating small cells, which fill the tissue of the polyp and contribute to its rapid growth, while the large capillaries account for the tendency to hemorrhage.

The specimen from which this section was made was picked with forceps from the patulous cervix of a young lady of sixteen years, who had had a considerable hemorrhage, and had passed a mass from the vagina, probably a blood-clot. A consulting physician suspected an abortion, and brought me the specimen for examination, thinking it was part of a placenta. The result of my examination, which showed that it was simply a thickened bit of mucous membrane, with hypertrophy of the glands, restored tranquility to a distinguished family.

In bad cases the process represented by Fig. 13 does not stop at the surface, but goes on, as previously described, until the whole mucous membrane is a thickened mass of glands, filled with cysts. In cases where there is any rent in the cervix the swollen mucous membrane pushes the lips apart, forming, secondarily, the ectropium described by Emmet.

I think, however, if I understand Emmet aright, that he errs in considering the ectropium as directly a consequence of the laceration of the cervix; in fact, as only an exposure to sight of a not very abnormal cervical mucous membrane. As I understand it the process is just the opposite, *i. e.* the mucous membrane becomes diseased from some cause not at present fully understood. Personally, I believe that the "irritation" is due to some form of bacterial growth.

Where there is a laceration, of course the cervical canal is more accessible, and more ready to take on disease; but without lacerations, and even in virgins, as previously shown, the same glandular endometritis goes on. Where there is no laceration the growth is more compressed, and spreads more or less evenly in a ring round the oration, actually supplanting the flat epithelium normally clothing the vaginal portion. The existence of a laceration

tion permits of an eversion of the swollen lips, and thus secondarily adds to the irritation.

But even in these cases, the whole surface of the erosion is usually not eroded cervical mucous membrane, as it is frequently represented to be, and as I understand Emmet to regard it. On the contrary, the process of glandular growth, and cystic degeneration, spreads beyond the boundary where the epithelium should commence. The everted lip of the lacerated os is thickened, and elongated, by being actually stuffed with the degenerate glands (see Fig. 6), and these may really spread to the vaginal surface of the cervix and even to the vagina.

It becomes a very nice question to determine whether such a cervix is cancerous or not, for the simple reason that in some cases the diagnosis cannot be made without the microscope, and it has frequently happened that cervices have been amputated as cancerous which were only in glandular degeneration; and, on the other hand, that after a laborious treatment of an eversion of ulceration, it has been found to be malignant.

This fact has an important bearing on treatment, for, if it is a fact that an eroded and glandular cervix is more liable than a healthy one to become cancerous, it is plain that it must be radically healed as soon as possible, even at the trouble and inconvenience of surgical measures. If, on the other hand, it is a pure coincidence that some eroded and ectropic cervices become cancerous, and if we should believe that they would have become so even if not previously diseased, the indications for heroic or surgical treatment are not nearly so strong. The question is a very difficult one, and there is a great difference of opinion on it among physicians. I think that I am safe in saying that where there are the greatest opportunities for observation, and where the habit of early removal of portions of suspected tissue, and of careful microscopic study of such specimens prevails, there is a consensus of opinion that a condition of laceration, eversion, and glandular or cystic degeneration of the cervix, predisposes very decidedly to cancer, under which name I mean to include epithelioma.

Not to go further into this question here, I will refer to the decided statements in support of this view made by Dr. Beany, the President of the American Gynecological Association at the meeting of that body in 1886. I believe that the members present

did not dissent from nor oppose Dr. Beatty's statement of opinion on this subject.

The results of American clinical observation thus appear to support the doctrines taught in Germany, which are the result not only of the study of a vast number of cases, but of careful pathological investigations, all emphasizing the fact that diseased cervices are more likely to cancer than normal ones.

A little reflection will show how natural this is, when we realize how narrow is the line which separates the heterologous glandular development revealing new lesions, with its immense *reduplication* and proliferation of epithelium external to the continuous basement membrane of the glands, from a cancerous degeneration, where the cells breaking through into the lumen of the glands, grow inward, forming solid plugs or processes instead of hollow tubes or coils. The subject is of great interest, and I hope at some future time to speak further on it, showing preparations and photographs of the transition of glandular "erosions" into cancer, which will, I am sure, impress others as they have impressed me with the importance of curing the preliminary disease as thoroughly, and radically, and quickly as possible.

TREATMENT.

In the matter of treatment of erosions, everything depends on the condition of the uterus; for the cervices are merely to be considered as a symptom of a glandular endometritis, which has become virilic, either by spreading beyond the normal limit of the cervical columnar epithelium on to the portio vaginalis, or by exerting a more or less patulous or lacerated os; thus, in either case coming into the field of view, particularly when a bivalve speculum is used.

For convenience it is well to divide the cases into—

(a.) Those of so-called simple erosions, in virgins or nulliparae, associated with anteversion of the uterus, or with stenosis of the os, or with elongation of the cervix, or with various combinations of these conditions, in most cases causing dysmenorrhoea.

(b.) Erosions and endometritis of moderate degree, with subinvolution, following parturition.

(c.) Erosions with ectropium, as complications of a lacerated cervix. In either of the last two classes there may be a more or

less complete rupture of the perimetrium; in any case there may be parametritis, pelvic peritonitis, salpingitis, adhesions, etc.

(d.) Invasive cases with induration of cervix, and suspicion of commencing malignant degeneration.

I believe that nearly all cases will fall into one of the above of the above categories, and I believe that, except in the second class, and provided there is no inflammatory trouble in the parametrium, by far the most satisfactory results are to be obtained by surgical measures.

For the first class of cases, those of erosions in cases of ante-fection, the last being usually congenital, or a survival of the infantile form, aggravated by repeated menstrual congestions, there are three modes of treatment, viz.—*First*.—The medical, comprising douches, dilations, tampons with medicated glycerine, or boro-glyceride, intra-uterine applications, etc. This has been admirably elaborated and described by my friend, Prof. Wylie, and in many cases with care and persistence, it is effectual.

However, it is a rather serious matter to condemn a virgin to a long course of local treatment, and with the best of care it often fails to give satisfactory results even in sterile married women, where ethical objections have less weight. This treatment, however, skillfully applied, is, I believe, usually inferior to surgical interference.

Second.—Slitting the cervix, at one time is vogue, and lately recommended, may have its place in certain intractable cases, where the cervix is extremely hard, but such cervices must be very rare, except as complicated with a state of hypertrophy, better cured by partial amputation, i.e., of the excesses of tissue.

Third.—For the vast majority of such cases, in fact for all but exceptional ones, and particularly where there is endometritis and stenosis of the os, it is much better to advise an operation at once, for, if properly done, with complete aseptic precautions, there is no danger, there is little subsequent discomfort, and a speedy and satisfactory cure.

The patient is etherized, the vagina well washed with sublimate solution 1:2000, the cervical canal well disinfected with a stronger solution of the same on an applicator, the os dilated with Goodell's strong dilator, or Wylie's modified Sims' dilator, the diseased mucous membrane scraped off with a Sims or a Martin-Rochester

cervix or a sharp spoon, removing thoroughly the glandular hypertrophy.

Injection of fern solution is not necessary, although advised by many.

If there is hypertrophy of the cervix it is to be removed, or if there is antelexion, a stem pessary, well disinfected and rubbed with iodoform, is to be introduced into the uterus, after the latter has been carefully washed out with the sublimate solution.

Some iodoform-wool is placed against the end of the stem to retain it, and remains there for two or three days.

The patient keeps the bed for a week, and then the stem is removed with antiseptic precautions. In a few days more she may get up, and the suffering and trouble are usually found to be cured; the erosions naturally are gone. Seldom is after-treatment necessary.

Such a case with such a result is represented by the first photograph, Fig. 2, and I could report a series of similar cases with equally satisfactory results operated on by Dr. Mancy and myself.

I suppose that it is hardly necessary to insist here on the fact that neither this nor any other operation on the cervix is to be undertaken while there are acute inflammatory processes going on in the uterus or the parametrium. Emmet has sufficiently pointed out the necessity of removing all inflammation by rest, hot douches, tampons, etc.

With our present knowledge of the frequency of salpingitis, and of the bacterial causes of inflammation, we can understand better than formerly the reasons why the precautions are necessary, and how often the whole focus of inflammation can be removed in the form of a diseased fallopian tube. For cases of stenosis with elongation of the cervix, erosions, and ectocervicitis, mere dilation is often not sufficient, and it is desirable to remove a portion of the hypertrophic tissue, and at the same time to restore the proper shape to the cervical canal and its exterior.

It is not my present purpose to enter into the question of the choice of operations; the habit and skill of each surgeon may accomplish a good result in various ways.

The next class of cases is where, after parturition, although there is little laceration of the cervix, the uterus remains anteverted, with endometritis and erosions.

I believe that in these cases the subinvolution is caused by the

endometritis and not *visceræ*, *i. e.*, they are the results of a mild sepsis, or bacterial infection; and precisely these cases, when not too inveterate, are susceptible of cure by antiseptics, such as nitrate of silver, tincture of iodine, or strong carbolic acid; of these the latter applied thoroughly, on a cotton holder, is the most effective. Of course, hot douches, and ergot, strychnia, etc., are also indicated, with vaginal tampons of glycerine 14, alum 1, boroglycerate 1, as recommended by Wylie.

Even in old cases, where the uterus is enlarged and hardened, much good can be accomplished by this sort of treatment, but the results are not usually very satisfactory; and in the next class of cases, where there is cervical laceration, the indications for surgical interference are even more imperative.

Nevertheless, want of courage, or opportunity, on the part of the patient, or a want of faith in surgical resources on the part of the physician, exclude operative interferences, the patient can be made comfortable, and with patience sometimes apparently cured without operation. Some women have such a horror of a knife that they will go about all their lives with a lacerated cervix and ruptured peritoneum, never being quite well, and requiring more or less perpetual treatment, rather than undergo an operation. This state of mind is not confined to women; in fact I think they are braver than men, who when they have hemorrhoids, or hernia, hydrocele, or spermatocele, are notoriously unwilling to undergo any radical operation, but find that their "business" requires it to be perpetually postponed to a more convenient season.

For such women much can be accomplished, even in cases of ectropium, by puncturing the cysts, scraping off as much of the glandular structure as is possible under the influence of cocaine, and applying at intervals strong carbolic acid to the diseased mucous membrane.

The dry treatment as used by Dr. Engleman is very effective in healing the erosions, and promoting involution of the everted lip.

He dries the parts with iodine, and packs against the erosive balls of iodoform-cotton wool, about an inch in diameter, each of which balls is enclosed in a thin layer of aseptic iron-cotton. This remains in place for two or three days, when it is removed and a new dressing applied.

Under this treatment, without douches or glycerine tampons, the erosions heal, the glands diminish, and the everted lip comes

together. Dr. Engleman was kind enough to show me several such cases in St. Louis, and it struck me as a very nice, clear, and effective treatment.

Apostoli, of Paris, who has been kind enough to send me his pamphlet, uses a constant current of electricity, with one pole in the uterus, and with a large pad of fuller's earth for the other pole on the abdomen; by this means a current of high tensile strength is sent *into* each part, which effectually arrests the glandular development in the endometrium, causing an *eschar*, and thus in Apostoli's opinion, attains the purpose of a cauterizing.

Where there is not much laceration of the cervix, nor rupture of the perineum, these various measures answer very well for patients who have a fear of operative measures, and have a skillful and persevering physician.

Nevertheless, it seems to me more scientific and satisfactory to give the patient ether; scrape out the uterus after thorough disinfection, remove the glandular hypertrophy at once, repair the lacerations, make a good os, covered with flat epithelium, and thus cure the patient.

At the same time, if, as is very frequently the case, there is a rupture of the perineum, possibly complicated with cystocele or rectocele, the perineum can be repaired, and the appropriate colporrhaphy performed, to remedy the other lesion.

With little pain, and no fever, the patient thus gets in an hour a benefit which she can seldom receive in years of local medical treatment.

How much more, then, in cases where there is any symptom of malignant degeneration of the erosions, is it the plain duty of the attendant physician to recommend thorough removal of the suspected tissue?

The consensus of authority all over the world asserts that inveterate cervical erosions are peculiarly liable to cancerous degeneration.

I hope that the foregoing figures have made it clear that these so-called erosions are not in any sense losses of substance, caused by mechanical irritation, etc., but that they are an active new formation of glands, prone to recur, even when removed, readily invading the portio vaginalis, where it should be covered by flat epithelium, and thus, by all analogy of pathology, they are to be viewed with suspicion, and removed with thoroughness.

Every one who is in a position to see many cases of cancer of the cervix knows that it is the saddest part of his mournful duty to tell the patient that it is "too late to remove it all," and in no one thing is a greater advance in practice to be hoped for than in the early recognition and removal of whatever seems either malignant, or doubtful, or so invasive as to be likely to be an early stage of that most dreaded of all the ills to which the sex is subject, viz., a cancer of the womb.

Dr. Carnall expressed his gratification at Dr. Cushing's very beautiful illustrations as being an exceedingly clear demonstration of the transition of adenoma (as the glandular hypertrophy that Dr. Cushing demonstrated histologically is) into carcinoma, and as thereby confirming the views he had held and taught for many years. It is a further demonstration, if any were needed, of the correctness of the Tiersch and Waldeyer theory of the epithelial origin of carcinoma, a theory now very generally, though not universally accepted, but which it, as in this case, constantly receiving confirmation by investigations in the various fields of surgery and pathology. Dr. Carnall had not had the opportunity to study the development of carcinoma from an adenoma in this particular locality, but he had studied it so frequently in the external skin, had seen it developing from sweat glands and hair bulbs and sebaceous follicles, as well as from the rete Malpighii, that the demonstration of the evening, by reason of the similarity of structure and arrangement, seemed almost familiar. Dr. Carnall desired to refer to the illustrations as also indicative of the local origin of cancer, and the text of Dr. Cushing's paper, while not directly stating so, was capable of this interpretation, inasmuch as he referred to the well-known clinical fact of the liability of cancer to attack persons who have had old "unhealed erosions" or glandular hypertrophy, as Dr. Cushing designates it, — the illustrations showing just how this took place by the invasion of the deeper layers of epithelium under the influence of a long-continued irritation ("unhealed erosion") into the connective tissue substratum. Our honored colleague, Dr. Emmet, has insisted upon the necessity in practice of making the incisions deep enough to get healthy tissues in apposition, so that union may take place; that necessity, as we see by Dr. Cushing's demonstration,

that the deeper layers of the glandular hypertrophy, the adenomatous new growth, must be entirely eradicated, or it will continue to grow, and, ultimately penetrating the deeper strata of connective tissue, take on the uncontrolled, unformed, immature growth characteristic of carcinoma.

The necessity of the careful removal of all tissues which may by any possibility contain the elements of a cancerous growth, that is, epithelial processes growing irregularly in the midst of connective tissue, extends, however, beyond the immediate locality. Billroth first formulated the important difference between carcinomas and sarcomas with regard to their generalization, that is, that, in the great majority of cases, the former generalized by means of the lymphatic system, and the latter by the blood vessels. Now we know that practically every secondary deposit is a focus for the further spread of the disease; and in this we see the necessity of enlarging the field of the operation beyond the part first affected, in order to search most thoroughly for any involvement of the neighboring lymphatic glands. In cancers of the breast this is so emphatically the case that all surgeons who are abreast of the times include a clearing out of the axilla in their operations. It is not enough to say that we cannot detect any enlarged glands by palpation through the external skin; the skin must be cut through and the dissection carried down to glands themselves before one can assure himself or his patient that "all disease has been removed." This is so emphatically the case that Dr. S. W. Gross of Philadelphia, with whose work on "Tumors of the Mammary Gland" you are all doubtless familiar, told me that it was his general custom to make his first incision in the axilla and clear that out before the removal of the breast. If the axilla could not be satisfactorily cleared out, he preferred to desist from the operation, to close up the axillary wound, and leave the breast untouched.

I beg the society to excuse this digression from the subject immediately under discussion. I only refer to it to emphasize the point Dr. Cushing has made, of the necessity of a thorough removal of all the diseased (hypertrophied) glandular tissues.

Dr. Steers seconded the motion and remarked:—I would like to ask Dr. Cushing a single question, suggested in part by the remarks made by Dr. Carnall. I believe with Dr. Carnall that in excision of the breast for carcinoma, good surgery demands that

the glands and the lymphatics should be thoroughly removed, even if the dissection had to be carried to the clavicle. But I think that it would be easier to do this after the breast was removed. We can not in carcinoma of the womb liken the operation to that of amputation of the breast, since we are unable to remove the affected vessels and glands beyond the disease. The question I would ask Dr. Cushing is, if he would attempt the removal of uterine cancers for advanced cases?"

Dr. Storrs mentioned having recently seen a case—seen for the first time where the vagina was infiltrated so that a digital examination could hardly be made. Could such a case, he asked, be one where an operation would be justifiable? He said that in his experience he had seen no benefit in the operation for the advanced cases.

Dr. Ingalls added: "I most cordially agree with Dr. Cushing in the importance of early operation in these cases of malignant disease of the uterus, and believe that when uterine tissue only is involved, the early removal of the diseased structure affords the patient great relief, as well as prolongs her life, but I must take issue with him when he says that he advises operating where the cancer has invaded the cellular tissue adjacent to the cervix. It has been my experience in such cases, that the very fact of operating seems to add a stimulus to the growth, which rapidly passes on to a fatal termination, and I believe that it is almost useless to attempt an operation unless you can get beyond the diseased structure into sound tissue. In these cases such a procedure is well nigh impossible, for the cancer has generally so far infiltrated the vesico-vaginal and the recto-vaginal septa, that to get anything like the whole of it away would involve the creation of fistulae, and so firmly do I believe this, that my advice to all patients who come to me afflicted with cancer which has involved the cellular tissue about the uterus is not to have any operation, and I believe they live just as long and in the end are better off."

Dr. Nelson remarked: "Dr. Cushing was speaking of mitigating symptoms by excision of the cancerous cervix. In Jan., 1883, a woman, multipara, 39, had had repeated monthly hemorrhages, very alarming, from some growth upon the anterior cervix. The entire anterior cervix was easily removed, there being a body, in some degree encysted, as large as a small egg, easily detached, but the whole anterior cervix was excised. The only fault was,

that we did not excise the posterior also, but it did not seem at all involved. The growth we found could be grossly classed as sarcoma, and the microscope revealed spindle-shaped and rounded cells with nuclei. In April she had two hemorrhages, a fortnight apart, not very troublesome, and no more. She had two years of comparative comfort, but in the year 1885 the rest of the neck and the fundus became involved, and she died Feb., 1886, more than three years after the operation. The neck was readily brought to the external vaginal os, so that a complete amputation could easily have been done. There was never after the operation any really troublesome hemorrhage."

Dr. Avery stated the history of a case of his, where the womb and the vagina and labia were involved in a hard cancerous mass. A speculum could not be passed into the vagina, and the finger could barely be introduced; the diseased mass felt exceedingly hard and bled readily bowed upon manipulation. Examination per rectum revealed implication to the vaginal septum. Now the question Dr. A. desired to present was: If with these conditions Dr. Cushing would advise extirpation by surgical operation.

Dr. Cushing replied that cases of this kind should not be excluded from possible surgical amputation.

ESSAY.

A MEDICO-LEGAL STUDY OF OUR CHARTER AND BY-LAWS, WITH REASONS WHY THEY SHOULD BE REVISED.*

By STEPHEN G. BURBANK, M. D., NEW HAVEN.

[Read before the Meeting of the New Haven County Association, April 21, 1887.]

It is always with a feeling of great reluctance that one approaches the performance of an unpleasant duty, particularly when he feels himself to be equally responsible with all his colleagues, for the existence of evils which the general good requires should be removed.

And no one who volunteers as a vigorous opponent of a system which has become heavy with age, moss-grown with obsolete ideas, and not only useless but damaging to most of those connected with it, need feel surprised if his motives are sometimes misjudged; but the sense of satisfaction that waits on duty done should be an ample recompense for any sacrifice it may have cost him.

In taking the affirmative side in the discussion of this important and timely question, I shall bring before you such authentic facts as you can easily verify, and which I hope will lead you to the conclusion that changes in our organic law are imperatively required.

Two years ago I had the honor to read before the New Haven County Meeting of the Connecticut Medical Society, a paper suggested by the near approach of its centennial anniversary; partly historical of the New Haven County Medical Society, formed in 1784, and which, after an inchoate existence of seven years, was finally incorporated in 1791, and the next year was merged in the

*Through inadvertence of the Clerk of New Haven County Meeting, the title of this paper did not reach the Secretary until the last day of the Convention.

Connecticut Medical Society; but mainly the paper was so far as it extended, an argument in favor of an amendment of our present charter, or the substitution for it, of a new plan of organization on a basis of equality in the rights and privileges of membership, and the making of every member a Fellow of the Society. So far as I am aware, no attempt has been made to show that the arguments there offered were unsound, or that there exists any valid reason why the proposed changes in our organic law should not be made.

I should add that the sentiments of that paper, never before publicly expressed, simply gave utterance to the long-established convictions and wishes of the society, as was demonstrated by the deliberate vote of the majority in favor of the main principle of the proposed new charter, and by the wider expressions of opinion since that vote was cast. The narrow limit of time then available, however, prevented us full discussion of the subject as was desirable; and with your permission, gentlemen, I will offer now a more direct line of argument, projected on a different plane, against the continuance of our present system, and ask your most serious attention to the looseness with which our present charter was framed; to the antiquity of its language; to its failure to meet the needs and the demands of the society; as well as to the apparent inability of members from that day to this, to comprehend the limits of the authority conferred by the charter on the President and Fellows; and to the demoralizing influences of the charter and by-laws, as a whole, upon every member of the society.

As we proceed, you will be able to draw your own conclusions as to the reasons for the strained constructions put upon the charter and by-laws from time to time by the Fellows, and for their readiness to exercise powers which the charter has not conferred on them. In this connection I will mention a fact as surprising to me as it may be new to you, and which may enable us to understand without imputing direct blame anywhere, what is otherwise unexplainable. Since my attention has been called to the need of a critical study of our laws, and an extended correspondence has placed me in communication with a large proportion of our members, I have been greatly astonished to find how very few, almost none at all, in point of fact, have ever read them. May not this fact, almost inevitable as it appears, account for much of the mis-

administration of our affairs? Can any man plead ignorance as an excuse for wrong doing?

Of all those elected since 1879, under our present charter, not a single one has complied with the conditions of *section four*, Chapter four, of the by-laws, which requires the member elect to affix to them his signature, "or otherwise declare in writing, his assent to the same: within one year, or such election shall be void."

Gentlemen who have been nominally elected to membership since the adoption of our present charter and by-laws in 1870, will have no difficulty in deciding whether or not they are members of the society; and especially whether they are not greatly out of place when they come here as Presidents and Fellows, and assume without the authority of law, the functions of our governors. It cannot be necessary, I am sure, for me to say that I cite this fact only to call your attention to this primary reason among many others, why our charter and by-laws should be revised, in order that these persons may become enfranchised—members in full of a professional body, the laws and purposes of which they seem to have misunderstood.

I have inquired of many, both old and young, and without exception they have expressed their disappointment on finding the charter and by-laws to be what they are; for they had supposed the society had of course been formed on a high professional basis, and for the mutual benefit of all of its members,—otherwise they would not have joined the society. Not one of the gentlemen to whom I put this question had read the charter and by-laws before his election, and not more than half a dozen had ever read them at all. One of our ex-presidents writes me that when he read the charter and by-laws, he was surprised to find himself as a member, bound hand and foot, and a mere non-entity, so far as a share in the government of the society was concerned; a condition from which he looked for speedy deliverance.

In my opinion, we are perhaps warranted in believing that in overstepping the limits of their authority under the charter, our elected Fellows are in a measure excusable; if any intelligent people can be so, on the ground of deficient information as to their charter limitations. Do any plead this as an excuse? Intimately associated with this tendency to over-estimate their legal powers, we have too often seen the willing purpose to exercise illegal powers by assumption, for the promotion of the unworthy aims of

a few individuals, singly or combined; while underlying the entire administration of our affairs, and exerting a pernicious influence on the morale of society, is the destructive fact allied to, but too controlling to be lost sight of, that every member upon his election as a Fellow, becomes the possessor of absolute and irresponsible power. I have said elsewhere, that as a Fellow he cannot be instructed by his constituents; and as we have recently had cause to know, "the President and Fellows" are not responsible even to a majority of the society; and if they should choose to disregard *the expressed wishes of every member of the society, excepting themselves, there is no power that can prevent them.*

We usually go through the form of electing so-called "representatives," but in what respects, will any one tell us, does the rule of our governors differ from absolutism?

Under such a state of facts as I shall describe, and considering the weakness of human nature and what has actually occurred within your own knowledge, it is not easy to limit the extent and variety of malfeasance to which the society is exposed, and may possibly experience.

To declare that the society is a creature of the law, and must be governed according to the law, is to make a statement of fact with which every member will agree. Standing together therefore, upon this common ground of agreement, we all are prepared to examine critically the legality of our present position as a corporation, and the inadequacy of our charter and by-laws to meet the needs of a society organized and conducted essentially for scientific purposes, and so administered as to promote the professional interests of all its members; and may I not also add, that we are prepared to accept without reserve the logical deductions that must be drawn from whatever facts we may find.

The more our charter and by-laws are examined in the cold light of judicial interpretation, the more clearly do their contradictions and absurdities appear; and these have all come into unwelcome existence during the lapse of years, and through the want of care and intelligent attention on the part of successive generations of our governors.

If you were to ask, as we proceed, why have not these deformities and evil tendencies been brought much earlier under critical examination? I reply, it is partly because "custom hath dulled our sense"; and partly because so few have had any care to read,

and still fewer to understand this instrument by which we have been feebly and blindly trying to regulate our action and promote our professional interests; but chiefly it is because the expressed will of the majority has never until lately, been so violently thwarted and overborne by the *absolute and irresponsible power* of our governors; and exercised in this particular instance, without authority of law.

To men accustomed as you are to weighing evidence and to the habit of logical reasoning, familiar with legislative forms and the glistering principles of law, a mere allusion to the existing state of facts ought to be sufficient for their correction; and when such they are brought to your notice, it ought not to be necessary to offer repeated arguments against their longer continuation.

But, so strange and varied are the constructions men put upon language, and upon the same facts viewed at the same time, from widely differing standpoints, by many observers whose knowledge of our charter and by-laws is often, when at the best, but second-hand; and inasmuch as a just decision of the main questions now at issue among us must turn upon the strictly legal interpretation of language, I have thought it would be useful, not only to the President and Fellows, for whose consideration this paper has been especially prepared, but to all the members of the society as well, if for once they could read the charter and by-laws in the light of competent legal opinions.

I have therefore submitted the charter and by-laws to the judgments of two prominent lawyers of this city, and asked their opinions in reply to the following questions. And to their independently framed answers, all of which coincide, I beg to invite your most careful and critical attention. The replies to my questions are mostly given verbatim, and the completed paper has been carefully read by one of the legal gentlemen referred to, and approved as to its points of law and the arguments based upon them.

Question 1st. Who are Fellows of the society? and how many can be legally chosen by each county association?

Answer. "Section 2 of your charter provides that the 'President and Fellows of the society shall be composed of the officers of the society for the time being, and of Fellows, not less than three nor more than five, chosen by and from each of the county associations.'

—By a strictly legal interpretation, the words 'officers of the

agents for the time being must be taken to mean such officers as are required by similar societies for the transaction of their ordinary routine business, as a president, a vice-president, a secretary, and a treasurer. And it is worthy of notice in corroborations, that in your first charter of 1792 and in your second charter of 1834, these four above-named "agents for the time being" are expressly designated as Fellows by virtue of their office; and they were required to be elected annually. The words of your charter of 1870, as well as your by-laws under it, imply the same requirements.

With respect to the number of Fellows that can be legally elected by the members in county meeting assembled, the language of the same section three is equally clear and precise; and by its provisions, each county association is authorized to elect "*not less than three nor more than five*."

It is not within the powers of the President and Fellows to authorize one county to choose *five* Fellows, and another county to choose but *three*. Section three of the charter confers upon each county the option whether to choose in county meetings *three, four, or five* Fellows to represent them, as they are supposed to do, in conversations of the President and Fellows. Therefore it follows that the governing body has no power to add to or diminish the number of the Fellows chosen within these limits, "*not less than three nor more than five*," by any of the county meetings. Optional choice cannot be controlled by means of by-laws, and the refusal of Presidents and Fellows to permit Tolland County to elect as many Fellows as it might choose, whether *three, four, or five*, was in violation of section three of the charter, and "repugnant to the laws of this State," and therefore void.

In passing I remark that this construction of the law and equity of the case has always been advocated, more or less strongly, by many members as correct. So far back as 1878 (see report of early Proceedings), when Fairfield County had only four members more than Tolland, the latter humbly petitioned that her claim for an equal number of Fellows be granted. But "on report of a committee of one from each county, her petition was denied, as inexpedient for the present." It should not be forgotten either that when in 1878 a by-law was passed on the petition of Middlesex County, allowing her to choose *five* Fellows instead of *three*, as formerly, Tolland again demanded the same concession of her rights, on the same legal grounds, to wit, that according to section

three of the charter each county was entitled to choose the same number of Fellows. Dr. Goodrich of Vermont, advocated the claims of Tolland on that occasion in an able speech, based on the plain language of the charter and the indisputable fact that his county had for many years been deprived of her birthright.

As an advocate of the right of every member to represent himself and to have an equal vote in the management of our affairs, I offer these facts as a portion only of a long series of reasons that might be offered why our charter and by-laws should be immediately revised, and not as an advocate for an increased number of elected Fellows.

If you examine our charter, and study our by-laws in the light of the charter, you will be surprised to find how loose is the language of the first, and how the organic law has been evaded through literal misconstructions of its language, and how contradictory and out of harmony these laws are with themselves, as well as with the organic law. Looking closely at the "constituting instruments," as the charter and by-laws are called in legal phrase—so-called because they are always supposed to stand together and *be harmony*—looking closely at these, what do we see?

Presiding officers of county meetings are in the by-laws made vice-presidents of the State society, and are so-called "agents for the time being," and, together with members of a "committee on matters of professional interest," are named Fellows *ex-officio*, and the entire eleven are added to the forty-two elected men entitled to vote. But the charter confers on them no legal status as such; and the wonder is that our governors did not include among their Fellows *ex-officio* the clerks of the county meetings as well. Under the laws, chapter three, section three, these county presidents cannot preside over any meetings of the Fellows in the absence of the President and Vice-President. They have no functions, no powers, no status as Fellows. They have no more right to vote than so many other members; yet since 1820 they have voted regularly upon all questions, though their right to vote has always been by many denied. Most of you will remember that in 1883 it was proposed, for the purpose of enlarging the governing body, and thus diminishing, as it was erroneously claimed it would do, the growing evils of "ring rule" to pass a by-law making of every ex-president a permanent Fellow of the society. The committee to which the proposed by-law was referred

reported adversely the next year on the ground that "it was found to conflict with various parts of the society's charter" (*vide* volume for 1884, page 14).

The committee thereby rightly decided, and placed on record a rule of law which, if enforced as it should be against the entire eleven Fellows *ex officio*, "officers for the time being," as they are falsely styled, for they have no shadow of right to cast a vote, would remove one of the sources of dissatisfaction with our present condition, and is of itself a sufficient reason for a prompt revision of our charter and by-laws.

Did time permit, I could point out to you other instances of illegality in the by-laws, and of their conflict with the charter; but there is one instance so illustrative of both these dangerous and unstable relations, and is at the same time so flagrant in its violation, not only of the charter and by-laws, but of the entire history of the society since its foundation, and is so opposed to sound policy, inasmuch as it tends to relieve officials from a sense of personal responsibility and the restraining influence of annual elections to office, and is so contrary to usage, that I should feel guilty of disloyalty to the profession, and neglect of duty, if I failed to bring it pointedly to your notice.

At the meeting in 1884, the same Board of Fellows that refused to sanction the proposed by-law making permanent Fellows of all ex-presidents, because it would be in violation of the charter, did enact a by-law *reversing the election of the Secretary permanent*. Of course, gentlemen, all know this action of our governors is contrary to the charter—contrary to all the by-laws ever enacted—at war with every dictate of common sense—"repugnant to the laws of this State," and therefore void. I refrain from alluding here to the circumstances which led to this insane proposition, and how know them. But what excuse can be offered for this reckless action of our despotic governors?

Let us suppose, however, for a moment, Mr. President, for the sake of the argument, that you can declare the election of the *Secretary permanent*, and thereby make of him a *permanent Fellow*, as you have done. Does it not follow that by similar means you can declare all the officers of the Society, "for the time being," *permanent*? And declare the elected Fellows—all the Fellows by *acquest*—and all the "*Fellows at large*" permanent officers of this incorporated society? You can thus, by a word, by a stroke

of the pen, secure for the rank and file of the society, a permanent exemption from the trouble of holding future elections, and future attendance upon annual meetings. Why should you not do this? What hinders you? Have we not been all our lives under the control of absolute and irresponsible powers? Have we not already, and of late, taken several considerable strides toward abolition—that condition defined as “independence of control from constitution or laws—the principle of despotism?”

A growing disregard of constitution or laws by those who have assumed the direction of our affairs, has of late years been not an unfrequent topic of conversation by members in various counties, and men ask of each other with a feeling of apprehension, “what next?”

I have sometimes heard this question asked, and my own answer to it has always been that, as a direct but inevitable result of our bad system, which has no parallel in New England, each one of us has become more or less tainted by the lust for absolute power: and that, as the official robes fall upon us each in his turn, and upon some of us with dangerous frequency, this demoralizing influence will continue to increase until the demand for revision of our charter and by-laws becomes practically unanimous; or until the society is disbanded.

Before entering further into an examination of existing by-laws, I ought to mention here one point made by my legal friends, as of the first importance for us to keep in mind while we are discussing the principles involved in this question.

The point is this, and I quote their language verbatim, as follows:

“All the acts of Presidents and Fellows, by which they have created Fellows through by-laws—through declarations as to so-called officers for the time being—and all the other misinterpretations of law (unintentional of course) by which the number of Fellows has been increased beyond, and contrary to, the plain provisions of the charter, and particularly the one by which *five* Fellows are given to Hartford, and only *three* to Tolland,—but more than all else, the crowning act of usurpation by which the election of the secretary has been declared permanent, are among those acts which the law calls *ultra vires*; that is to say, acts which are beyond the powers of the executive part of a corporation.

“Such acts are of course contrary to the statute laws of this State.”

Question 2d. What are the powers of the Fellows? and what are their legal relations to this society?

Answer.—In replying to these two queries, it must be understood that, by the same rules of interpretation of language, the office of Fellow can only be held under the charter, by the "officers of the society for the time being"—to wit—the President and the Vice-President, the Secretary and the Treasurer, together with such others as may be legally chosen under the charter provisions of section three of the organic law, by members in their respective counties. The powers of the President and Fellows are specifically enumerated in section two of the charter to be these only: to wit—to prescribe the duties of the officers of the society, and its members, and to fix their compensation; and to hold and dispose of all moneys and property of the society as they may think proper, to promote the objects and interests of the society; and in general to make such by-laws and regulations for the *dis* government of the society, not *repugnant to the laws of the United States or of this State*, as may be deemed necessary."

This section two of the charter, appears on examination to be a crude and ill considered section, narrow in its scope, faulty in its construction, and totally incompatible with the spirit of the age in which we live. I ask you to note the fact that our governors have not thought it necessary to indicate, or provide for the duty of members to assemble from time to time, for the free discussion of questions touching their interest as the *individuals incorporated*, as well as the general interests of the profession as a whole. They do, however, permit the Society to hold for a few hours what is called an annual convention, with a programme so arranged that no act or function can be performed, and no discussion of the society's interests can take place except it is authorized or directed by the President and Fellows whose annual session was held the day previous. A few papers may be read by appointment; but no member is permitted to read a volunteer paper, even if it has been commended by the unanimous vote of his county meeting, unless its sentiments are supposed to be in accord with those of our governors. I say, unless they are supposed to be in accord, because in some instances the decision is made before the paper reaches the committee of publication. The name of the author it is enough to know. The case of Dr. Baker and his paper, rejected after correction of the proof, does not stand alone, so far as the governing

principles of action are concerned. I have been assured, and can well believe, that there have gone out sometimes, from headquarters, private instructions to the faithful that no discussions of certain questions must be allowed, even in the society meeting—much less in any meeting of the President and Fellows, for fear of disturbing the peace and harmony of the society. Can peace and harmony be destroyed by the calm discussion of facts and principles? or can they be preserved through the application of a gag law? If either of these propositions is true, which I deny, what must be the scientific value of the society—what its educational and social value to its members—and what a degraded position it will soon come to occupy among the other professional bodies in the commonwealth? No provision is made in the by-laws for the calling of an extra meeting of the society, and none can be called by any body. No provision is made for the adjournment of the annual convention—or for the decision of any question by the votes of members, and yet the society does adjourn, and could adjourn to a set day; and questions are debated, votes are taken, and committees are appointed. Those facts, and others still more striking and significant, prove beyond controversy the existence of reserved rights of the individuals incorporated, and we can confidently fall back on these reserved rights for protection against any abuse of the law.

This brings us naturally to the consideration of,

Question 3. In whom, then, does the supreme power of the body corporate, known as the Connecticut Medical Society, abide,—and to what extent can it be legally exercised?

This question has not been submitted to the same legal authority as were the others, but its

answer rests upon reason—upon the established custom of the society—and upon the higher law, acknowledged by all similar bodies. It abides equally and permanently in every individual member of the corporation; but by the conditions of our autocratic (old-time) charter it can only be exercised by the corporation as a society, whenever in strict compliance with sections three of the charter, it elects Fellows.

The supreme power of the society was, however, again exercised in 1885, when a majority of its members, acting upon the formal invitation of the President and Fellows to express by written ballots their opinions and wishes respecting a proposed new

charter for the society, received their votes in favor of such a change; and that majority, and the entire vote, were greater in proportion than the one by which our last State constitutional amendment was adopted.

The President and Fellows, in issuing this formal invitation, and appointing a committee to superintend the ballottings, and to receive and report the results, have placed themselves on record as fully recognizing the reserved rights of the corporate members to the exercise of a *supreme power*, whenever and however the best interests of the society may require it of them. Upon this rock we can all stand. This great foundation principle established by reason,—by the higher law,—by the unwritten code, as well as by the ancient customs of the society since the dawn of its existence, has always, until 1838, been acknowledged by the President and Fellows, and invariably acted upon, whenever the question of adopting constitutional amendments has been presented; it has thus become the common law of the society.

It is an entire misconception of the rights of the body corporate, as well as of the Fellows elected by it, to suppose that the adoption by the society of a new charter, or of an amendment to the old, "requires to be ratified by the President and Fellows" in order to make it binding upon the society. The approval of those officials is only required as one of the series of steps by which a newly adopted charter can be brought before the legislature, and thus become one of the statute laws of the State.

Reasoning from false premises, in the absence of knowledge of the principles of law, and without due reflection as to the rights of the society, and of the Fellows, as some of us have done, or for whatever other reasons, the conclusions reached by them could not have been otherwise than erroneous; and therefore, it was perhaps not an unusual error for the President and Fellows to claim powers which the Fellows have never possessed, and have never before attempted to exercise.

On these grounds, and a confused unfamiliarity with the history of the society, as shown in its several charters, in its various by-laws, and its current published proceedings from its first session to the present, it is not strange if the present generation has forgotten that the right to determine whether any, and what changes shall be made in our organic law is one of the great reserved rights inherent in membership; one of the supreme powers that

belong wholly to the members of a body corporate, and cannot be alienated or assigned. Much less can they be exercised by a temporary board of managers. This primordial fact, that the source of all power resides in the people, has always until lately, been fully recognized and unquestioned by us whenever we have changed our organic laws.

If you will take the trouble to read the very instructive report of our early proceedings, as well as those of recent years, you will see that in every instance, as in 1796, 1846, 1854, and lastly 1869-74, the question of the adoption of proposed changes in the "Act of Incorporation," or of a new charter or of a charter amendment, has first been submitted to the popular vote; and the President and Fellows have simply registered the will of their constituents, and submitted it for approval to the legislature. All such propositions having their initial point, whether in a county resolve, or in a motion made in convention, have been respectfully considered, and have followed this line of procedure.

While these elected officers, our Fellows, have been spoken of "*pro persona*" as our governors, they are more truly our board of directors. *They are the managers for a corporation, but not the corporation itself.* Their failure to keep in mind this broad distinction, has been the culminating one of a long series of mistakes which are the cause of all our present difficulties.

Is it not time, Mr. President and gentlemen, that in our practices as a corporate body, we should return to first principles, and recognize in them the only foundation on which we can safely rebuild the weakened and tottering walls of our venerable and honored institution? Dissatisfaction with our present system of government by elected Fellows is rapidly increasing in our more populous counties; and in the whole State the unfairness of it is universally acknowledged. The first step in the process of reconstruction, even to begin, is to settle the question of the basis of representation; and the frequency with which this question is agitated, is a fair measure of the importance which is attached to it. While the proposal to elect representatives in a ratio of one for every eight or ten members of the county meetings, seems to be on its face perfectly fair and just, as an abstract proposition, and would be so in fact if our population were more evenly distributed, it must be evident to every reflecting mind that, under the existing state of facts, much more than half our population being

in three counties, such a basis of representation, if satisfactory to-day, could not long remain so. This question, however, we wait its proper time for discussion. But the fact that this year, the topic has been urged on our attention by three at least of the counties, must surely be considered as a valid reason for a revision of our laws.

Can these appeals for a radical change be safely ignored? Do gentlemen suppose for one moment, that free discussion of this or other questions which concern so deeply the very existence of the society, can be silenced or smothered by star-chamber edicts, or the fiat of a caucus? If so, they greatly deceive themselves. Probably few of our members have ever read or heard of the address to the society made by the charter committee of 1869. They said some very good things. They encountered difficulties they could not solve. They appreciated the objections that must always be against our old system of unfair and irresponsible representation by elected Fellows. But, in the presence of the crude and unformed ideas then prevailing, they saw no other possible course open to them, and they evidently adopted that one with reluctance. One of their number, as I know, advocated self-representation, but the time for equal rights to all had not come. The committee did the best that could have been done under the existing circumstances. Reading between the lines, however, it is evident they must have foreseen that our present bad system, suited only, if at all to a sparse population, with primitive ideas, and a low standard of fitness, could not possibly endure; but would in time be swept away by the natural and irresistible movements of our population, and the inexorable logic of the census returns. When that day reaches us, and it is not distant, do you suppose we will have any need for elected Fellows?

The march of ideas is never backward; and we should prepare now to meet the inevitable while we can do it with little commotion, by so revising our organic law that, while every county, small or great, shall have an equal share in the nomination of our officers, every member shall have an equal voice in their election, and an equal share in shaping the little legislation that will be necessary for us.

ESSAY.

NATURAL AND ASSISTED LABORS, WITH ESPECIAL REFERENCE TO THE USE OF THE FORCEPS.

By R. M. GUTHRIE, M.D., MANCHESTER.

[Read before the meeting of the Hartford County Association.]

The propriety of the frequent use of the forceps in labor, is a question which has, probably, been more frequently and more persistently discussed than any other procedure in obstetric practice. Were it a question which had been, or could be definitely and finally settled, and the necessity for its discussion ended, this paper would not have been presented to this society.

The primary considerations of every practicing obstetrician, in each individual case of confinement, should always be to reduce the period of labor, the amount of pain, and the danger of permanent injury to the minimum consistent with the safety of mother and child.

This is a self-evident proposition, which I think you will all admit, and upon which, it seems to me, there is no ground for dispute. If a judicious interposition of instrumental aid will avert the evils likely to follow in the train of a long and tedious labor, or if, with safety, it will shorten the period of pain and mental anxiety of the mother, is it not our duty as physicians and humanitarians to avail ourselves of such aid at every favorable opportunity?

For the more convenient consideration of our subject, we may divide labors into two classes, *viz.*: normal and abnormal. Under the head of normal labor, we may class all cases which, from the commencement to the end, progress in a natural manner, and without interruption, to a natural and favorable termination. Under the head of abnormal labor, may be classed all those cases

which, from asyomet, are delayed, and prevented from a continuous progress to a termination favorable to both mother and child; and by — favorable termination," I especially mean, a live child, an intact perineum, and a not unduly extended mother.

Normal labor seldom requires assistance, but may with safety be left to effect its own delivery. Abnormal labor, while in the majority of cases terminating unaided and without serious injury to either mother or child, often does so after a needless prolongation of maternal suffering, an avoidable increase of risk to the life of the child, or with every hour's delay an added amount of danger of injury to the soft parts of the mother. It is to the avoidance of this needless suffering, and these possible dangers, that we shall direct our attention.

Authorities are much at variance upon the question of their frequent use, and probably every one with an extended obstetric experience, sooner or later discovers that the only authority upon which he can rely, with any degree of confidence, is his own judgment and his own experience. Formulating thus to myself a belief founded on my own judgment and experience, I am convinced that whenever bad results of any kind follow the use of the forceps, such results are due, not to the simple use of the forceps, but to their unskillful use, or to some combination of circumstances which would have produced the same or worse results without their use.

Landois, in his admirable little work, entitled "How to use the forceps," says: "They are not simply a pair of tongs to be applied — somehow — to the child, and pulled upon — somehow — until it is dragged out, but a carefully devised instrument, intended to be used in a definite manner, and which used with care and understanding, and under proper conditions, they fully justify all the eulogy that has ever been bestowed upon them."

Human skill and ingenuity have never devised a mechanical means their equal for the relief of suffering and the salvation of life. Their use demands — not the adverse criticisms which their frequent employment receives from many of our leading practitioners, — but their praise, which should stimulate and encourage the younger members of the profession, in their more frequent and intelligent application. Nevertheless, we find men who have grown old in the practice of midwifery, men with the reputation of being more than ordinarily successful obstetricians,

arguing that because they have been commonly, or perhaps more than commonly, successful, it is best to "let well enough alone."

The argument is advanced by them that labor is a physiological action, and in most cases can well take care of itself, and that the frequent use of the forceps is but an added source of pain and danger to both mother and child. But the truth, as it seems to me, is that the dangers attending the intelligent use of these instruments are greatly magnified. A thorough knowledge of the relations of the anatomical parts of the pelvis to the fetal head, a moderate degree of confidence in one's own ability to use them, will, with little experience, enable one to put them to frequent use, not only without any additional danger to either child or mother, but with the more happy result of often diminishing the danger which already exists.

The mere application of the forceps inflicts not a single moment of danger, and should not cause a single moment's pain. After they are once properly in position, their withdrawal from the vagina, enclosing the fetal head, should cause at least no worse pain than the expulsion of the fetal head alone. Therefore, if any objection at all is to be made to the operation, it cannot reasonably be made to the introduction, nor application of the instruments themselves, but to the use to which they are put, after they are applied, viz., artificial traction. The power of the woman is inadequate to the expulsion of the child. We supply that power, and delivery is speedily accomplished, or, again the power of the woman is inadequate to the expulsion of the child without prolonged suffering and exhaustion. Again we supply the needed power, and the suffering and exhaustion is reduced to the minimum. Or once again, the strongly expulsive powers of the womb are likely to result in injury to the woman. We apply the forceps, restrain and regulate the force applied, and accomplish a safe delivery. Are these propositions unreasonable? Rightly applied and rightly used, the injury from the forceps should be no worse, at least, than would have followed a natural delivery, and the suffering from their use should be absolutely nothing. Women should never die because they are used, but often do die because they are used too late.

It is neither my plan nor purpose to attempt any instructions regarding their proper application. Suffice it to say that the numerous rules, from the time of Chamberlain to the present, governing their use, are no more to be relied upon as to how they shall be

used than as to *when*. Circumstances depending upon the position of the head, the shape of the pelvis, the stage of the labor, and the style of instrument, must govern each individual case.

My object is rather to state some of the dangers and annoyances which a timely use of the forceps will obviate, or modify. One of the primary, and to my mind most cogent reasons for the use of the forceps, is the shortening of the time of labor, and consequent diminution of pain and exhaustion to the mother. This is often a matter of great importance, especially in a primipare of delicate physique, and nervous temperament. I am confident that in a majority of first cases, if a timely use of the forceps was made, we should have much less nervous shock and exhaustion, and a consequently better and quicker recovery.

But it is argued, that as a normal labor is a physiological action, it should be left to nature, if nature can in time, and unaided, effect a delivery.

But there are other aspects of the question, which are often unconsidered. With our present village and city population, habits of living and modes of dress, have developed a race of women far different from the Creator's original. A race among whom we seldom find a *perfectly healthy* one, or one of perfect form. Nature is, therefore, in many such instances, working at a disadvantage, and a large proportion of the labors we are called upon to attend, are far from normal and physiological ones. Surrounding conditions of life have made an aid to nature needful, and suffering woman, in this, her greatest trial, reaches her hand to us for help. In the skillful application of the obstetric forceps, that assistance may be found. In our extreme conservatism, shall we stand indifferently by, and, with the means of relief within our easy reach, witness her hours of continued suffering, and the anxious solicitation of husband and friends, refusing to apply the means of relief, unless forced to do so by some danger signal, which would never have been displayed but for our "over-cautionness"?

The argument that a labor should always be left to work out its own delivery, when such a delivery is possible, seems to me fallacious, and as unreasonable as that an abscess should be left to burrow its way out, or a broken bone to unite without surgical aid. In the majority of such cases nature will effect an ultimate recovery, but usually in a less favorable manner, than if assisted by surgical science. So also the great majority of labors would effect

their own delivery, the most of them do, —but many of them are after hours of suffering which might have been avoided and consequent exhaustion which would not have ensued, if an intelligent use of the forceps had been made. Therefore, of what advantage will it be to leave the case to "Nature"? Is it that we may avoid the dangers of a too rapid delivery, and allow time for the maternal tissues to be properly prepared? If so, I again insist that delivery need be no more rapid with than without forceps, and that when the proper time to use these instruments has arrived, the maternal tissues are always "prepared." Is it that there is danger of hemorrhage? I answer that their application usually promotes uterine contraction, and that hemorrhage after a forceps delivery is rare. The truth is that at the present time we seldom leave a case of labor to "Nature."

If we did, the labor would be soon and easily accomplished, there would be no lacerations, floodings, and exhaustion, but the woman would soon arise, cleanse herself, and in a few hours be again about her family duties. Instead of leaving the woman to "Nature," we leave her to the consequences of physical deformities and deterioration incurred by defiance of Nature's laws. Therefore, I cannot see what advantage there is in leaving her to these consequences, when we have the means in our hands to effect her safe and speedy delivery.

Whenever, therefore, with a vertex presentation (provided there is no pelvic deformity), with the os dilated, or easily dilatable, the labor does not advance (in proportion to the pains, or the longer continuation of the labor may imply danger, in any form, to either mother or child, or simply a longer continuance of suffering, the time to use the forceps has arrived, unless there are some good reasons which contraindicate their use, and I believe that their use in every such case is eminently proper, to do away with the nervous excitement of the patient, and to relieve the anxiety of the friends. When, with strong pains, there is not proportionate progress in the labor, the woman herself soon notes this fact, and becomes nervous, agitated, weak, and helpless. Then it is that a suggestion from the physician, of speedy relief by the use of the forceps, is readily entertained by the patient, and when advocated by the woman herself, is rarely opposed by the friends.

Meigs states that "violent pains contraindicate the use of the forceps." So far as I can ascertain, he makes this statement

without qualification. I may be pardoned if I differ from so eminent an authority, for I believe rather, as before stated, that violent pains without a corresponding progress in the labor, are an indication for their use.

A second point to be noticed in the advocacy of the frequent use of these instruments is the decrease in the number of still births, and also that when the forceps are frequently resorted to, the necessity for craniotomy decreases. Dr. Keen states that "as the forceps have been neglected, the use of the perforator has increased." This statement is fully sustained by the statistics of Churchill. Clarke of Dublin, who used them then but once in 723 cases, used the perforator once in every 348 cases. Collins, who used the forceps once in 614 cases, used the perforator once in 141 cases, while Siebold, who used the forceps once in every 3 cases, used the perforator but once in 2,693. And Oslander, who had charge of the Hottelungen Lying-in-Asylum, and used the forceps once in every 2½ cases, used the perforator but once in his life.

In the Rotunda Hospital, Collins used the forceps once in 494 cases of labor, with a fetal mortality of 1 in 26, and a maternal mortality of 1 in 529. Harper used them once in 26 cases, with a fetal mortality of 1 in 47, and a maternal mortality of 1 in 1,436. In Collins' cases, the average duration of labor was, in first labors, 38 hours; in Harper's cases, it was 16 hours.

The forceps are the child's instruments, and in every case its salvation, and avoid every chance the danger to the mother. Without their help many children would perish, if qualified Nature were left to effect their delivery. By far the great majority of still births (excluding of course those which are dead before the commencement of labor) are due to the refusal to use these instruments, and if in these long-delayed labors the forceps are finally used, as a last resort, and the woman delivered of a still-born child, the unhappy result is usually considered as having been unavoidable, or, what is more frequent, is attributed to the use of the instruments, when, in fact, had they been earlier used, the results attained would probably have been more satisfactory to the physician, the patient, and the friends. A still-born child is to most women a small reward for nine months of discomfort, and several hours acute pain. A third and very important point in the consideration of their use, is the prevention of injury to and laceration of the soft parts of the mother.

In the consideration of this point it should be borne in mind, that the majority of cases of injury to the generative organs, from parturition, occur in first labors, and in cases in which instruments were not used. I think careful inquiry among physicians in large obstetric practices, and also among those doing an extensive business among the foreign classes, where the employment of a midwife is common, will demonstrate this statement to be a fact. I think I am not making too strong an assertion, when I say, that nearly every case of lacerated perineum, nearly every vesico-vaginal fistula, and other kindred troubles, following the parturition of primiparas, are due to the neglect to use the forceps at the proper time, and in the proper manner. In a somewhat extensive obstetric practice of eleven years, one vesico-vaginal fistula, and two lacerated perineums (the only ones occurring in my practice). I have always felt might have been avoided, but for the obstinate refusal of an ignorant old woman to allow the use of the forceps at the proper time.

This view of the prevention of maternal injury by use of the instruments is fully sustained by Hodge, Simpson, Deady, and Emmet, the latter of whom states that of two hundred and fifty cases of vesico-vaginal fistula, but three cases were from the use of the forceps, and that those three cases were malpractice; all the remaining two hundred and forty-seven were due to protracted labor, and might have been avoided by proper and timely instrumental delivery. With the forceps we have complete control of the head, being able to retard and compress it, thus preventing a laceration of the perineum, which the strong expulsive pains of heavy labors often occasion. Of course, lacerated perineums will sometimes occur during the most carefully conducted and skillfully managed instrumental deliveries, but it may be stated as a fact beyond all controversy that *any child which can be naturally delivered without a lacerated perineum, can be delivered with the forceps without a lacerated perineum, and that every child which cannot be naturally delivered without a lacerated perineum, can be delivered by the forceps without such laceration.* My experience confirms my belief that were the forceps used with a majority of primiparas, lacerated perineums would be of exceeding rarity.

I believe it to be a duty which every physician owes to humanity to reduce pain and suffering to the minimum consistent with the safety and well-being of his patient, and I cannot conceive that it

makes any difference whether that pain proceeds from a felon or a toothache, a peritonitis, or a labor. During the past fifty years medical research has been directed as much to the alleviation of suffering as to the relief from danger, and rightly so. Therefore it seems to me that the first duty of the attending physician upon a woman in labor is to make her labor as painless and as rapid as is consistent with the safety and well-being of mother and child. It seems to me that he who allows his patient to struggle on for hours in distress, running the risk of exhaustion, lacerated perineum, fistulas, etc., from long-continued pressure of the head on the soft parts, is remiss in his duty, and should inquire of himself if perchance he is not overlooking the one essential point needed, which, when he has passed over the troubled waters of active professional life and perhaps left but the memory of his good deeds behind him, shall enable the women among whom he practiced to "rise up and call him blessed."

ESSAY.

MEMOIR OF DR. ELISHA NORTH.

By H. CANNISTON BETTOS, Ph.D.

[Read before the New London County Medical Society, April 7, 1887.]

Elisha North was born in Goshen, Conn., January 8, 1721, of Connecticut ancestry. He was a lineal descendant of John North (born 1615) who is believed to be the progenitor of all bearing the family name in the United States. John left England at the age of twenty, sailing in the "Susan and Ellen," and landing in Boston, he soon made his way with other emigrants to Hartford, where he did not linger, but settled in the beautiful valley of Farmington. This was in 1635. He purchased a house and lot on the main street of the village, and five years later married; six sons and three daughters were born to him between 1641 and 1658. In 1688 land was entered to him in Farmington, and when the unoccupied lands in the ancient town were divided according to their lots, John, with his two elder sons, John and Samuel, were among the eighty-four proprietors. He was "made free before the court" at Hartford, on May 21, 1657 (*Trumbull's Public Records of the Colony of Connecticut*, Hartford, 1830, p. 297). He died in 1691, aged seventy-six.

John North's fourth son, Thomas (born 1649), was one of the pioneers in the settlement of Northampton (now Avon), Conn. He was a soldier in the Indian wars, and had a soldier's grant of land. In 1708 (?) he married Hannah Newell, and they had five sons and five daughters; his sixth child, Joseph (born 1693), moved from Northampton to Goshen, Litchfield County, where he continued to follow the business of his ancestors—farming. Joseph married at the age of forty one widow Martha Smith (being her third hus-

land), and they had five children. The eldest, Joseph, Jr., born 1736, was the father of the subject of this sketch. Joseph, Jr., developed a talent for surgery and medicine, and though he had no regular medical education, he acquired a considerable medical practice. An old chronicle says: "He borrowed books and got them from Dr. Meigs," and considering the fact that there was no medical school in the United States in his youth,* this was the best substitute for systematic instruction which could be secured. In 1778 Joseph, Jr. married Lucy Cowles of Farmington, and they had nine children. It is interesting to note that the three eldest sons, Elinor, Joseph, and Elisha, inherited the tastes of this self-made physician, and followed their father's profession. Elinor, the eldest, was born in Goshen January 8, 1771; he entered upon the labors and responsibilities of an active medical man at the age of sixteen, when he took charge of a broken limb, which he succeeded in setting and healing without assistance. He studied with his father, accompanying him in his long drives over the bleak hills of Litchfield County, and gained a practical experience which afterwards served him well. But he felt the need of more systematic training and larger insight into the art of the physician, and made his way to Hartford to pursue studies under the celebrated Dr. Leonard Hopkins (born 1750, practiced in Hartford from 1784 until his death in 1861). Returning to his native place he practiced until he had accumulated the necessary means to defray his expenses in another and more extended search for higher instruction; at that time his choice of medical schools in the United States was limited to three, the medical college of the University of Pennsylvania, Philadelphia, founded in 1765; the medical school of Columbia College, New York, founded in 1767; and the medical department of Harvard College, founded in 1782. Exactly what determined him to prefer the Philadelphia school we do not know, unless by reason of its being the longest established, and on account of the celebrity of its teachers. The schools at Cambridge and New York city were much nearer, but he made the then considerable journey to Philadelphia. He matriculated at the University in the fall of 1793, and pursued his studies under the dis-

*The first Medical College in the United States was established in Philadelphia in 1780, when Joseph was twenty-four years of age. This college first conferred the degree of M.D. in 1771.

tinguished Dr. Benjamin Rush and his able colleagues.* He did not remain long enough to obtain a diploma; indeed, but a small part of those who studied at the medical schools in the last century secured diplomas; in the first fifteen years of the Medical School of Philadelphia, the number of graduates averaged about five and one-half a year, while as many as seventy students were in attendance at one time. In the latter half of the eighteenth century attendance at a medical school was resorted to but by few of those who took upon themselves the responsibilities of practitioners of medicine, and Dr. North's enterprise is an indication of the earnestness of purpose which characterized him throughout life.

Meanwhile, the physicians of Connecticut had succeeded in obtaining a charter for a State Medical Association; this was in October, 1792 at Middletown. At the adjourned meeting of the convention held May 15, 1793, at Hartford, Elisha North was admitted to membership in the society. He was at this time only twenty-two years old, yet was regarded as worthy of honor.

On leaving the Philadelphia Medical College, he resumed his practice in Goshen, and immediately took a high rank in his profession. Zealous and indefatigable as a student, he was foremost to adopt improvements in medicine; not blindly, but after careful trial of their value; he endeavored not merely to keep up with the current thought and novel usages but to contribute to the art reforms and inventions of his own busy brain.

Soon after settling in Goshen, at the age of twenty-five, he married Hannah (December 22, 1797), the daughter of Frederick Beach, his fellow townsman, of an ancient and honorable Connecticut family. Of his happiness in domestic life we shall speak at a later period. We may anticipate, however, to remark that his wife was a true helpmeet in the highest degree.

Always eager to seek upon ourselves in the healing art which

*In 1798 the Faculty of the Medical School of the University was constituted as follows:

Surgery and Anatomy,
Surgery and Anatomy,
Practice of Physic,
Diseases and Children Medicine,
Chemistry,
Materia Medica,
Botany and Natural History,

Dr. William Mather, Jr.,
Dr. Casper Walter Lohmann,
Dr. Allen Kuhn,
Dr. Benjamin Rush,
Dr. James Woodhouse,
Dr. Samuel P. Guilman,
Dr. Benjamin S. Barton.

Early History of Medicine in Philadelphia, by George W. Norris, M.D., Philadelphia, 1895. See Preface, 344-345.

promised to benefit the human race Dr. North looked with doubt on the announcement by Dr. Jenner of the results of his experiments in vaccination. Dr. Jenner's work: "*Enquiry into the Causes and Effects of the Variolæ Vaccinæ*," published in 1788, did not meet in England with unqualified acceptance, yet but a few months later the young practitioner of Goshen is found experimenting with the new process in a scientific spirit which challenges our admiration.

One of the first men in America to proclaim his confidence in the statements of Dr. Jenner was Dr. Benjamin Waterhouse, Professor of Medicine in Harvard College. In July, 1800, he procured vaccine matter from England, and boldly tested the experiment in the persons of four of his own children, the eldest being seven years of age, who thus became the first subjects of vaccination in the United States,* and being afterwards exposed to small-pox infection at the hospital of Dr. Aspinwall they proved to be unassailable of its influence."—(Dr. James Thacher's *Am. Med. Biography*, Boston, 1828.)

In September of the same year, Dr. James Jackson of Boston, returning from London, where he had studied under Dr. Woodville, practiced vaccination in Boston and vicinity. Before the close of the year, Elisha North was pursuing his own investigations. He himself describes the first steps as follows:

"A few weeks only before vaccination was begun in Goshen, Dr. Waterhouse of Boston, had received vaccine matter from England. I took my first vaccine fluid warm and fresh from a person in New Haven, who was visited for such a purpose. The distance was nearly fifty miles. This patient had been vaccinated six or seven days before. There was a complete failure very soon afterwards in the business of vaccination in New Haven. As soon as I arrived home I vaccinated three patients, two of whom were children. The children went through the regular process of vaccination, but the virus failed to infect the adult. These children were immediately put to the usual test of variolous inoculation. The variolous infection occasioned very small effects which soon disappeared."

* According to Mr. Sidney E. Morse, the first four persons vaccinated in America were a member of the family of Dr. Waterhouse, the Rev. Dr. Jedidiah Morse, Richard O. Morse his son, and Silvery E. Morse, himself. *List of Variolous Cases*, D.D., by Wm. B. Sprague. New York, 1879, pp. 222-223. It is possible that Mr. Morse says Dr. Waterhouse vaccinated "one member of his family"; Dr. Thacher says "some of his children"; Dr. North says: "six of his children."

Vaccines was introduced into Philadelphia in the Autumn of 1800. Dr. John Redman Coxe recalls experimenting on his son, December 30, 1801, in *Phila. Med. Museum*, (V. 228, 1865).

And then be able with great candor and modesty:

"I was inadvertently more inclined to chance than to skill for my good fortune in these experiments, for as was afterwards learned, nothing was known on this side the Atlantic with regard to the proper time for taking vaccine virus."

Some months later he addressed a letter to Dr. Waterhouse, stating the difficulties which had attended vaccination in his vicinity, and the Boston physician replied he had experienced similar perplexity. But a few days later he wrote that he had just received a letter from Dr. Jenner communitating the following golden rule in vaccination: "Take the fluid for vaccination on or before the expiration of the eighth day." Of this rule Dr. North, thirty years later, remarks: "This is now known to every eye in the medical profession, but none can realize its value but those who have experienced the evils occasioned by the want of such information." And it was with this in remembrance that he attributed his first success to chance rather than skill.

The "business of vaccination" as Dr. North calls it, was extensively carried on in Goshen in the winter of 1806-31, by himself, and by Dr. Jesse Carrington, of whom he candidly says: "He was my rival in business." Dr. Carrington was, however, not so fortunate, and met with a calamity at the outset: he had procured some virus from a traveling person (designated in Dr. North's blunt language as a *live-pock-peddler*) with which he vaccinated his wife, and others. After Mrs. Carrington got through with what her husband supposed was the live-pock, he persuaded her to have variolous infection put into her arm. The unfortunate and believing wife was easily made to understand the object in view, namely, to convince an incredulous public of the utility of the new vaccine; but to the great disappointment and chagrin of Dr. Carrington his wife broke out with the genuine small-pox, and she had to be removed in accordance with the law to a hospital in Cornwall, ten miles distant. Of this incident Dr. North says: "This calamity and the two experiments I had previously made, were very beneficial to all within their knowledge."

Both these Goshen physicians made a vast number of experiments, some with genuine vaccine (lymph and sera) with such as proved to be spurious, and also with variolous infection, but no disaster similar to that related again occurred. By degrees they

acquired knowledge for the discrimination of genuine and spurious matters. During the winter many persons were vaccinated half a dozen times before the desired effect could be produced. A trouble and vexation arose which, says Dr. North, was "much greater than in future will probably ever again occur."

Besides the perplexity occasioned by ignorance, these early investigators had to encounter a host of other vexations occasioned by the prejudices of those around both in and out of the medical profession.

We again quote Dr. North at length:

"In the spring of the year 1800 there was no genuine vaccine matter this side of the Atlantic, except in Goshen, and in the hands of Dr. Waterhouse or others in his vicinity. During the winter of 1800-01 there was a complete failure in the cities of New York and Philadelphia in obtaining genuine vaccine virus. This circumstance enabled me to introduce the live-pock for the first time into the City of New York. This was done in April, 1801, by the agency of a Mr. Hunt. Mr. Hunt visited New York on his own business while he had the live-pock in his arm, and that, too, in the right stage for taking matter. Mr. Hunt at my request called on Dr. Edward Miller, who vaccinated others from his arm. I vaccinated Mr. Hunt from the arm of a little girl. This girl was vaccinated by virus taken in a fluid state from the hand of a Mr. Free; the pusule on his hand had been derived directly from the udder of a cow, by sucking. Thus the first genuine live-pock that was ever introduced into the City of New York originated from an American source."

So far Dr. North's own words. The writer of this sketch has in his possession the original letter of Dr. Edward Miller thanking Dr. North for sending him vaccine matter; the following is a transcription of the letter:

(Copy.)

New York, 20th April 1801.

SIR—I have received by the favor of Mr. Lyman, the letter and enclosures which you have obligingly transmitted to me. Your opinions and practice in respect to cow-pox seem to have been formed in the most judicious and accurate manner; and I cannot but congratulate the distant country which makes up the sphere of your professional labors, on the discernment and ability you display in the introduction and encouragement of such a means (for it scarcely deserves to be called a disease) of preventing and exterminating one of the most terrific distempers when not mitigated by inoculation that ever afflicted the human race.

The discovery of cow-pox must undoubtedly be considered by all intelligent and reflecting persons as one of the most interesting discoveries which distinguish the present ingenuous and enlightened period.

One failure in the propagation of cow-pox in this city was solely owing to the apatheticness of the matter employed—a misapprehension which seems often to have happened in different parts of Britain till physicians became experimentally well versed in the peculiar appearances of the genuine disease. Such occurrences, however, will probably become less frequent as soon as the community and especially medical persons are thoroughly apprised of the sources of fallacy and of the necessity of giving strict attention to all the circumstances of discrimination. I think your publications very properly adapted to guard against the mistakes incidental to this new practice.

I am greatly obliged to you for the kindness of sending some of the vaccine matter. I shall employ it without delay, and if it should fail to communicate the disease, shall take the liberty of requesting a further supply with a view to another trial.

Wishing you every degree of success in your meritorious exertions to extend the usefulness of this discovery, and to improve the condition of the masses of mankind, I request you to accept my assurances of the most perfect respect and esteem.

EDWARD MILLER.

DR. ELSHA NORTH, GOSLEY, OXON.

Dr. Edward Miller was one of the prominent physicians of New York city, an editor (with Dr. S. L. Mitchell) of the *Medical Repository*, and a man of large practice.

In the above letter Dr. Miller refers to the "failure" in New York city to introduce vaccination. Dr. James Thacher, the biographer, says in this connection:

"Dr. Miller of New York received vaccine matter from Dr. Parson of London, which failed however to produce the genuine disease, nor was another supply sent on from Boston attended with better success." (*Am. Med. Supr.* I. 98 *)

Dr. Thacher says nothing of Dr. North's participation in the matter, probably because the facts had not yet been published at the time he (Dr. Thacher) wrote: In January, 1802, a "Cow-pox Institution" was established in New York city. The circumstances connected with the man Ives are too important to be passed by. Dr. North thus narrates them:

"In May, 1801, a young man by the name of Ives came to consult me as a physician. He said he had chills, headache, and fever; also a swelling under his arm and a sore on his hand; this sore upon examination I found to be the cow-pox pustule. Upon inquiry I became completely satisfied that this pustule was produced from infection derived directly from the udder of a cow, by milking. Being pleased with this discovery

* See also: *Med. Repository*, Vol. IV, pp. 79, 88, and 220 (1802.)

(considering it to be the first of the kind which had been made in America) I prosecuted my inquiries still further. The result of these inquiries amounted to this, that this cow did not get her disease from the human subject nor from the horse. . . . Infection taken from Ives' hand (five I have been at the right stage for taking infection) produced the genuine disease in others."

In the same year, almost the very month that Dr. North was making these observations, Dr. Edward Miller wrote in the *Medical Repository*:

"We hope our readers in the United States will endeavor to ascertain whether the vaccine disease is to be found among the cows of this country, and if so they will employ infection derived from a domestic, in preference to a foreign source." (*Med. Reposit.*, IV, 322, 1801.)

How Dr. North anticipated this suggestion has been stated.

Nearly fifty years after Dr. North had thus established the identity of cow-pox and small-pox, the discovery was claimed for Dr. Cooley of Aylesbury, England. In an article which appeared in the *Medico-Chirurgical Review*, the following passage occurs:

"What many gentlemen in this country failed to accomplish, we are happy to say has been at length achieved by one of the members of our association, Mr. Cooley of Aylesbury. He resolved to attempt to ascertain whether he could by inoculation impregnate the cow with human small-pox. Twice he has succeeded in accomplishing this important object after many previous fruitless trials. His experiments were conducted in the presence of five medical men and one veterinary surgeon. He produced five vesicles on the cows, from which source several hundred patients have been vaccinated, who have exhibited all the phenomena of vaccination in the most perfect form and complete degree."

The publication of this caused a contributor to the *New London Advocate and Republican* (February 3, 1841) to take up the cudgel in behalf of "our venerable and respected fellow-citizen, Dr. Elisha North," which he did by republishing the account of Mr. Ives' case just quoted.

I have before me, as I write, a small piece of paper, yellow with age, on which is written in Dr. North's peculiar yet legible hand:

"An extract from a discussion had in the *Cheraw Gazette* (S. C.), and in the *Procybe's Advocate*, New London: 'Dr. Jenner discovered the utility of vaccination, while it must in future be unquestionably admitted that the continued investigations of Drs. North and Cooley in England have established the identity of the vaccine prophylactic with the small-pox.'"

The old manuscript ends here. Obviously Dr. North had

copied the extract so flattering to his *emancipator*, with a view to preservation.

The great opposition which the introduction of vaccination met at the hands of common people is a familiar topic, yet we believe new light may be thrown upon its extravagant character by quoting a few passages of Dr. North's narrative. He says:

"The excitement or opposition ran so high and was so very unreasonable that to get rid of the continuing sickness . . . I was myself, in particular, actually accused of using an design bad small-pox matter. To silence such slander, I begged as a favor that five of my vaccinated patients would visit with me a small-pox hospital at Winchester, eight miles distant, and there be inoculated with warm variolous infection, and likewise see the small-pox for themselves; for some, among other objections, maintained that the live-pock was a worse malady than the small-pox. This last experiment was actually tried and succeeded, and it was acknowledged to be a fair one."

"Another trouble arose in the progress of this business. After we had succeeded with much labor and expense in establishing the utility of vaccination, too many thought that they could vaccinate themselves after they had learned how from us; and such persons sometimes thought it was perfectly a fair game to defraud their teachers of the pitiful fees which were expected."

Dr. North states that he succeeded in driving the small-pox from the adjoining town of Cornwall, but neither he nor Dr. Carrington "made the business of vaccination profitable notwithstanding their great attention." An interesting advertisement of Dr. North in the *Connecticut Courant* of 1813, will be found in the appendix (D).

Dr. North published his comments on the researches of Dr. Waterhouse as set forth in the latter's pamphlet printed in 1802. Dr. North remarks that he thought it his "duty to exhibit much demonstrative evidence with respect to the utility of vaccination," and contrasts his own method of investigation with that of Dr. Waterhouse to the prejudice of the latter. Dr. North admits (in 1829), the imperfection of physicians' knowledge of the management of vaccination, and makes the pertinent inquiry: "Is it not expedient in the present state of our knowledge to have recourse to the cow for vaccine virus as often as may be practicable?"

A question obviously prophetic of these days when "vaccine farms" are recognized institutions auxiliary to the practice of vaccination.

In the spring of 1805 a malignant disease broke out in Massachusetts, which baffled the physicians, soon became epidemic, and proved a terrible scourge. It was first noticed by Drs. Handson and Mann of Medfield, Mass. in March. The fever was accompanied by a characteristic spotted eruption which caused it to receive the popular name "Spotted Fever." Dr. Miner called it *typhus maculosis*. Dr. North called it *typhus petechialis*. This disease ravaged New England at various periods from 1806 till 1816. It first appeared in Connecticut in April 16, 1807, at Winchester, Litchfield County, about eight miles from Dr. North's home. Writing of the disease he says: "A disorder has come among us like a flood of mighty waters bringing along with it all the horrors of a most dreadful plague." The history of typhus and its symptoms, as well as the methods of treatment are well known; for a non-medical man to venture on this ground would be a dangerous experiment, all we desire to do is to show the part which Dr. Elisha North took in checking this malady, and informing the public of his experiences and successes. When the disease broke out in Winchester, sweating and bleeding of patients was resorted to. Dr. North at the very outset came to the conclusion that "Death was not occasioned by violence of fever, inflammation, or putrefaction of the system, but by an unaccountable, sudden, and violent prostration of the energy of the brain and nervous system" (Spotted Fever, p. 95). Accordingly, he adopted a method of treatment opposite to that in vogue, "stimulating to the fullest extent," and using "wine, brandy, opium, camphor, Peruvian bark, serpentaria, oil of peppermint, castor, elixir vitriol, blisters, and sinapisms." In his treatise on spotted fever Dr. North devotes an entire chapter to the "Quantity of stimulants to be used," admitting that in some of the cases reported the quantity given was "enormous." Elsewhere he writes:

"I am decidedly of the opinion this disease requires stimulating remedies; but by this I do not mean that in every case patients must take brandy by quarts, or wine by gallons, for I believe that it requires as much judgment in using stimulants as it does in reducing the system" (Letter to Dr. Elijah Morison. — *Phil. Med. Museum*).

During the winter of 1807-8 Dr. North prescribed for sixty-five patients suffering with this disease, of these he lost but one, the second patient to whom he was called (Spotted Fever, p. 99). In

Witchester when the disease first appeared about one-third died (page 127).

Many physicians adopted the plan of using stimulants, some independently, and others in consequence of the publication of Dr. North. Between 1807 and 1810 spotted fever prevailed to an alarming extent in Hartford, Farmington, Wethersfield, Berlin, Bristol, Burlington, Canton, Simsbury, Torrington, Winchester, New Hartford, and Goshen, and the popular excitement concerning it found utterance in the columns of the newspapers of the day. Mr. Babcock, editor of the *American Mercury* (Hartford), was very emphatic in his complaint of physicians with respect to this plague.

The Reverend Dr. Ebenezer Fitch, President of Williams College, was bereaved of his eldest son, "a promising and hopefully pious youth" on the morning of Commencement Day, 1807. This affliction stimulated Dr. Fitch to publish in the *Berkshire Reporter*, of Pittsfield, a letter with two communications, one from Dr. Elisha North of Goshen, and one from Dr. Elijah Lyman of Torrington, "two very respectable physicians" whom he had addressed with inquiries. This, in the earliest publication of Dr. North on spotted fever, bears the date February 12, 1808. It is reprinted in Dr. North's treatise (pages 97 to 102), and has been quoted above. A year later Dr. North published in the *Philadelphia Medical Museum* another letter addressed to Dr. Elijah Munroe, a prominent physician of New Haven. It is worthy of remark that both these publications were in answer to inquiries made by persons addressed and by request, facts bearing testimony to the unobtrusive and rather retiring character of their author.

In the second letter named, dated February 12, 1809, Dr. North calls the disease "Typhus petechialis or the malignant Petechial or Spotted Fever," describes the symptoms and his method of treatment, which is substantially as given. One year later Dr. Timothy Hall of East Hartford read a paper (April 10, 1810) before the Connecticut Medical Society on spotted fever, in which, after detailing his experience, he adopts the views of Dr. North, and says:

"Dr. North's method of practice coincides with my own ideas of the proper method of treating this disease than anything I have seen written on the subject." (Reprint of the proceedings of the Connecticut Medical Society from 1793 to 1829 inclusive [Hartford, 1894].)

The disease continued to spread and to cause great mortality.

At a meeting of the Councillors of the Massachusetts Medical Society held February 7, 1810, it was

Resolved, That a committee be appointed to collect information respecting the history and treatment of a malignant disease commonly called spotted fever, which is now prevailing in the county of Worcester, and has prevailed, within five years past, in Hartford, Conn., and Providence, R. I., and report at the next meeting of the society or councillors."

The interest of medical men in this epidemic is further shown by frequent contributions to both the secular press and to medical journals.

Dr. Samuel Woodward of Torrington, the Rev. Festus Foster, Dr. Bester, Dr. Piske, Dr. Williamson, besides those previously named, took prominent parts in this public discussion. These diverse contributions Dr. North collected, and together with his own clinical observations and views, published in a duodecimo volume to which we have already alluded. It bears the date 1811, and was printed in New York by T. and F. Swords, printers to the Faculty of Columbia College (for full title see Appendix). In the preface the author states that he has undertaken "to preserve and bring into one view those things which have already been published," in hopes of aiding the medical fraternity; and he adds: "This work was not written for amusement but for utility; the author had a double purpose to accomplish, not only to exhibit the truth respecting the nature and treatment of this disease, but also to produce evidence of this truth." Accordingly, he appends descriptions of many cases.

Dr. North's writings are characterized by great candor, some might say bluntness; he did not shrink from calling a spade a spade, and some persons evidently felt aggrieved, as the following shows. Thirty-five or forty years after the treatise on spotted fever was published, Dr. North planned a second edition; the well worn copy which he used for the purpose is now in my hands; it bears his MS. notes on many pages, and contains more than sixty slips of paper on which are written the proposed changes and additions for the second edition which never saw the light. On one of these slips, in connection with the preface just quoted, we read: "A bigoted person has told me that this preface was extremely faulty; if it be so my brain is so organized that I cannot perceive it."

We shall not undertake to give an analysis of Dr. North's work,

which, though rare, can be found in certain medical libraries. Another quotation from his unpublished notes may be given, since it shows again his dry and candid expression of opinion. In the chapter upon "Of Subacute Hydræmy," he speaks strongly against the use of mercury, and dwells on its pernicious effects on the constitution. The second edition, had it been published, would have contained the following addition to this chapter.

"A physician said to me years ago that I ought to be ashamed of what I published in the first edition of this work in regard to mercury. With the permission of persons whose heads may be organized somewhat like that person alluded to, I will now state that during more than forty years practice I have known the organization of so many persons so permanently injured by the abuse of that highly fallacious medicine that I think now, as I did then, that cautions in regard to it are highly proper."

In this chapter he also says: "I have myself treated not less than two hundred patients with this disease (spotted fever); of these I have lost two. I have never given calomel except to three of the whole number" (Spotted Fever, p. 57).

Dr. North's treatise was favorably received by the medical fraternity. The editors of the *Medical Repository* highly approved the work, as did the editors of the *New York Medical Journal*.

The editors of the *American Medical and Philosophical Register* (New York), in reviewing the treatise say:

"This is a very respectable work, and by far the largest that has yet been published on the spotted fever. The author appears to have been very diligent in collecting his materials, has evinced considerable discrimination in the selection, and has put together a body of information which, independent of its present usefulness, well deserves a place as a permanent book of reference. But to the merits of a judicious compiler, Dr. North justly lays claim to the character of an original observer, and the facts and observations which he himself has related of this disease, which still prevails in different parts of the Eastern States, are among the most valuable portions of his interesting book." (*American Medical and Philosophical Review*, Vol. II, page 440. See also in *Connecticut Gazette*, Aug. 26, 1812.)

Dr. North had now reached the age of forty-five, and his reputation for skill in surgery and judgment in medical art extended over the whole State of Connecticut. Simple and unostentatious in his manners and habits, he never sought selfishly his own aggrandizement; but his worth was appreciated and caused him to be widely resorted to for surgical practice.

Early in the year 1812 there came to him an invitation to remove to the city of New London, then an important port and a center of the whaling industry. The temptation to exchange the vigorous climate of Litchfield County for the more congenial one of the coast, to exchange the hardships of a country physician's life for the amenities of city practice, as well as the opportunities of more frequent and quicker communication with the outside world, and the advantages which would accrue to his growing family now comprising six members, were some of the weighty reasons which decided him to seek a new home.

He moved with his family to New London, May 8, 1812, and soon secured the esteem of his new circle of acquaintances. A contemporary writer, speaking of his career as a physician in New London, says:

"In the practice of his profession, Dr. North exhibited a remarkable degree of caution, deliberation, and careful reflection. When concerned with the health and comfort, and we may add, the moral welfare of his patients or friends, he exercised a conscientious care and thoughtfulness that preserved him from unsafe criticisms or dangerous and extreme views. As a consulting physician he enjoyed the confidence and friendship of his brethren, and was much valued for his philosophical habits of mind in cases of difficulty and uncertainty."

Soon after his settlement in New London, the second war with Great Britain broke out, seriously disturbing the prosperity of the seacoast city. A British fleet controlled the entrance to the Sound, and a petty warfare on the water and on the coast kept the inhabitants on the alert and fearful of disaster. Yet "during the whole war not a man was killed by the enemy in Connecticut, and only one in its waters upon the coast." (*Miss Caulkins' History of New London*, p. 634.) During this bloodless war the garrisons of Fort Trumbull and Griswold required the attentions of a medical man and Dr. North was called into this service.*

At the early period of which we write, medical etiquette allowed much greater freedom in advertisements in the local press than the present vigorous usage. In examining an imperfect file of the *Connecticut Gazette*, preserved in the rooms of the New London County Historical Society, we have found several interesting

*Probably in the volunteer service only, for the Adjutant-General of the army informs me under date of March 4, 1897, that "the name Elsie North does not appear on the roster of the U. S. A., Mar. 3, 1813, nor commissioned officers or enlisted men."

advertisements showing their prevalence. These we relegate to the Appendix. In the long advertisement of April, 1819, Dr. North offers his services as a surgeon in certain special cases named, and then followed this endorsement:

"We the subscribers being personal friends and medical brethren, residing in the same town with Dr. North, believe the publication of the above will probably benefit society."

(Signed) THOS. COFF, M. D.,
ARCHIBALD MERRICK,
D. T. BRAYARD,
N. S. PERKINS.

When one physician can thus secure the public endorsement of his four rivals, it indicates a state of harmony hardly credible in these degenerate days.

At the first meeting of the New London County Medical Society, held after Dr. North's removal to the city, he was admitted to membership (September 22, 1812); and he appears to have taken an active part in the work of the society during many years. He served as clerk in 1815, as chairman in 1823 and in 1831. He was frequently elected as delegate to the State Association, and was thrice appointed to read papers before the County Society (1814, 1829, 1834). For the last twelve years of his connection with the society the honor of being "over sixty years" exempted him from office, in accordance with the rules.

Dr. North had joined the Medical Society of Litchfield County in 1811 (September 24th).

Up to the date of his leaving Goshen, Elisha North, though doubtless styled "Doctor" by his friends and acquaintances, had not received the medical degree. On the title page of his work on spotted fever he does not affix any title to his name. Of his medical education we have written, of his qualifications for a diploma there could be no question, and therefore it is not surprising to find that the State Medical Association, at the meeting held in New Haven, October 20, 1813, voted to confer on him the honorary degree of M.D. Dr. North's name appears in this same year as a member of the Examining Committee of New London County. Between the years 1813 and 1821 he was almost continuously sent as a delegate to the annual meetings of the State society; in 1816 he was appointed on the committee to recom-

needed suitable candidates for a degree of M.D. He apparently held no other office in the State society.

Dr. North's reputation as a successful practitioner rests on his skill as a surgeon as well as in the art of healing. In New London he paid especial attention to diseases of the eye and met with great success, exhibiting good judgment, courage, and delicacy of operation. Writing of himself he says:

"I have had the pleasure to prevent total blindness and restore sight to twelve or thirteen persons during the last three years. These would now probably be moping about in total darkness and be a burden to society and to themselves, had it not been for my individual exertions." (See advertisement in Appendix.)

His success as an oculist led him in the spring of 1817 to open an eye infirmary in New London, which was without question the first institution exclusively devoted to eye surgery in the United States. Of this he writes:

"We had attended to eye patients before that time, but it occurred to us then, that we might multiply our number of cases of that description, and thereby increase our knowledge, by advertising the public in regard to an eye institution. This was done; and we succeeded, although not to our wishes in a pecuniary view of the case. Our success or exertions probably hastened in this country the establishment of larger and better eye infirmaries." (*Review of Life*, pp. 88-90.)

Dr. North's allusion to his ill success peculiarly reminds us of another passage in which he writes:

"Judging from the lowness of medical fees in Connecticut, one would suppose that property regarded as a means of health, was held by the community in higher estimation than health itself."

We may here mention that his skill in delicate operations was perhaps augmented by his left-handedness, which was marked and persistent. The lack of discrimination in treatment of ophthalmia at this period is illustrated by an anecdote related at the expense of one of his contemporaries. A man came to Dr. North's infirmary suffering with an inflamed eye; after careful examination the Doctor removed some foreign substance like a bit of charcoal, which had caused the irritation, and prescribing a soothing lotion dismissed him. But before the man left the Doctor casually inquired "what have you been doing for your eye?" The man said he had been to Dr. Blank. "Ah!" said Dr. North, "and

what did he do for you?" "He gave me," said the unfortunate man, "thirteen doses of calomel!"

Few persons are now living who were contemporary with Dr. North; many of those still surviving testify with sincerity to his skill as a surgeon. Proofs of this in individual cases are wanting, but he has left in print descriptions of some of his ingenious improvements in methods of operating. He devised a novel method of performing the operation of lithotomy which need not here be detailed. (See Bibliography in Appendix.) He invented an improved trephine and a speculum oculi, both of which he exhibited at a meeting of the State Medical Association in Hartford, in 1821 (May 9th). He also invented a trocar and a new form of catheter, which latter is publicly endorsed by his contemporaries and fellow citizens, Drs. Coll, Mercer, Brainerd, and Perkins. This was in 1825. (*Science of Life*, page 201.)

About the year 1824 Dr. North, convinced of the advantages of life on a farm, purchased a small property in East Lyme and removed there with his family, driving into the city for his medical practice. On this farm he found a deposit of peat and he made many experiments with it as a fuel. One of Dr. North's marked characteristics was his habit of seizing upon neglected phenomena, or novel views, adjusting them to existing circumstances, discussing them in a philosophical manner, and then endeavoring to adapt them to philanthropic uses; in short, he made his hobbies and sought to induce his friends to make them their own. Accidentally peat became for the time being his hobby; he had it dug, dried, and sent into town for sale, but probably never gained much pecuniary advantage from his ill-appreciated enterprise. The results of his philosophic study he embodied in an article on "Fuel," which was published in the *American Journal of Science*. Prof. Silliman, in a note to this article, says that while he cannot regard Dr. North's views as tenable, "all will agree that he is performing an important service by attempting to excite the attention of his countrymen to this neglected but valuable resource, the more valuable because it is so extensively diffused and so easily accessible."

Those desirous of learning more of Dr. North's claims and hopes for peat as fuel are referred to the original article, which will well repay perusal. (See Bibliography). A few years later

he withdrew from the farm and took up his residence in Huntington street, New London.

In 1829 Dr. North published in the *Connecticut Gazette* and in other papers several essays under the title: "The Rights of Anatomists vindicated," and signed *Voxiferus*. These letters were instigated by a law passed by the Connecticut Legislature in 1824, relative to the examination of bodies for the purpose of dissection, "which law converted the slight offense of trespass into the heinous one of felony," and placed anatomists in a very difficult position. These letters are written in an argumentative, lively style, abounding in historical allusions, and with great freedom in expressing the author's views; who sought to induce statesmen to modify the law, and at the same time to lessen in the public mind the horror excited by the surgeon's experiments. His remarks on the status of the State Medical Society and its relations to Yale College are of especial interest to the historian of medical progress in Connecticut.

In the same year Dr. North published a volume of 168 pages entitled: "*Outlines of the Science of Life, which treats physiologically of both Body and Mind.*" "To which are added *Essays on other subjects.*" This work gives an interesting insight into the philosophical mind of its author, and in the subjoined essays furnishes incidentally many items which have been already used in preparing this memoir. Dr. North attempts to show that there is in both animals and plants a "vital spirit" formed by caloric either from the blood or from the sap, "that every sort of life is dependent upon such a spirit either in an active or a torpid state; that mind as well as the other functions of life is dependent upon this spirit when it is animal, and that no unknown spirit or immaterial necessity is needed to account for any of the phenomena of vitality." This somewhat materialistic conception is, however, modified by his admitting the immortality of this sentient spirit. He maintains that this spirit originates directly from the blood, and that it is the halitus of the blood, or its elements. And while he regards animals and man alike in respect to this general animal spirit, yet he does not deny the power of God to "make the human soul immortal agreeably to the Christian's faith and hope" (p. 27). He is conscious of the novelty of his views, and before publishing secured from nine physicians (out of ten who examined his MS.) written certificates

favoring the publication. He writes in the belief that "more good than evil will result" from it, and says "little advantage is expected from it: the writing has increased our power as a practical physician, whether it will benefit readers, time must decide."

His work shows a wide acquaintance with the current English literature on physiology, with a perusal, at least, for the writings of Darwin; it abounds in illustrations from experience and the testimony of others; its philosophical spirit cannot be questioned, although in the light of modern discovery his conclusions seem untenable. His style is rather repetitious and amusingly discursive, quotations being often introduced from Pope, his favorite poet. His style is also marked by short pithy sentences, which are epigrammatic, and a quaint humor runs throughout the work. A few quotations may well be made, as the book is decidedly scarce.

He speaks of metaphysicians as "curious men who sit at their ease in elbow chairs, for want of something better to do, contemplating and arranging the movements of their own brains only into systems of mental philosophy, without interrogating nature abroad as much as they should do" (p. 68).

Referring to social relations, he writes: "Among mankind, the men in private life pretend to govern the women and children, but both the latter often rule the former, and often to the injury of society" (p. 91).

Speaking of the appetite, he says: "The stomach, like a wife, has more power at home than any other organ in the whole family" (p. 72).

The "Science of Life" is followed by six essays reprinted in part from the originals, which we have noticed elsewhere. The most interesting is a "History of Vaccination as practiced in Goshen, Connecticut," a subject we have fully discussed.

Dr. North was fond of scientific studies, and at times made them hobbies. The visit of Dr. Spurzheim to the United States in 1822 awakened an interest throughout the county in phrenology, and Dr. North did not escape the epidemic. He had read and absorbed, though ever before this event, the theories of Gall and Spurzheim, and became quite fascinated with them. He published several essays in the local paper (*Goshenite Gazette*) and a small volume bearing the peculiar title: "Pidgeon's Progress in Phrenology by Uncle Toby." In this work "good instruction is given

is the mode of a pleasant conversation in a mixed company of gentlemen and ladies, or to pilgrims in the science." The motto is laid in the town of "Christian Charity," and the conversation is carried on between "Mr. Judicious Description, Mr. Pithologyist, Mr. Jendoury, Miss Talkativeness, and Mr. Objector." He claims that phrenology by no means implies materialism and fatalism; and that it is charitable towards all religions. His system of classifying the mental organs differs somewhat from that of Gall and Spurzheim. His dry humor again appears in his writings; he says:

"Masked are best of wonderfulness: it is not, however, always necessary to have a big head to command public attention, as some mistakenly teach; not that I myself have a small head." (p. 48.)

Although Dr. North read and wrote much on topics not immediately connected with his profession, he never neglected his duty towards his fellowmen when called to their aid. He seemed to find recreation in mental exercise unconnected with his business. When Asiatic cholera raged in New London in 1832, he made himself conspicuous by skillfully meeting the destroyer.

Besides the articles cited, Dr. North contributed to the current medical periodicals a number of essays on a variety of topics. So far as we have been able to discover them, they are catalogued in the accompanying bibliography.

Dr. North was exceedingly happy in his family life; his wife was a woman of much character and had the best influence over him; his eight children grew to manhood and womanhood, exhibiting many of the admirable traits of character inherited from both parents. The very names given to three of his boys shows the peculiar bent of his mind; the eldest was named after Harvey, the illustrious discoverer of the circulation of the blood; two others were named after Erasmus Darwin, and William Hetherington, the distinguished Englishmen of science. Three of his sons had the enterprise to found commercial houses in New Orleans, where by industry and unfailing integrity they speedily secured a competence; one of his sons studied medicine, but preferred private study and teaching to the cares of professional life. Yale graduates of twenty-five classes (1830-1854) remember "Lord North" as the painstaking and successful instructor in electricity in that institution. One of his daughters became the wife of the

eminent martyr to science, Dr. Elisha Mitchell, Geologist of North Carolina, and Professor of Chemistry in the University of that State; one married a prominent clergyman of South Carolina, and another daughter married a successful physician of New York city.

One of his children used to relate an anecdote showing his calmness and mild paternal government; when quite young she swallowed a pin, and, greatly alarmed, approached her stern father with the excited cry "I've swallowed a pin!" Dr. North looked up from his book and quietly said: "Well, does it hurt you?" "No, father," replied the child. "Then don't be so careless again!" And this was the end of the conversation.

Being rather careless about keeping his books, making and collecting bills, his good wife used to supervise this important business for family reasons; but in spite of her care, an examination of his ledger after his decease showed this curious entry:

"Mr. Blank, to doctoring you till you died, \$17.50."

Interesting proof of his ill success in collecting bills has been kindly placed in my possession by a member of the New London County Medical Society, in the shape of an intercepted bill for \$23.98 against the selectmen of the town of Groton, and dated May 23, 1820.

It is related of him that on one occasion he was called upon to treat the foot of a young girl who was feebly delicate about exposing her naked foot to the physician's gaze. Perceiving her false modesty, as she hesitated to remove her stocking, he said: "Come, Miss Blank, if your foot is clean, let me see it!" Her scruples vanished.

Dr. North was exceedingly abstemious, and this increased with advancing years; devoted to study he sat reading or writing seemingly oblivious of externals, and not noticing persons entering or leaving the room unless they addressed him, when with native courtesy he gave them his attention. The only infirmity which attacked him in his later years was deafness, and this unusually increased his concentrativeness. His methodical habits, love of philosophical truth and his singular abstruseness are exhibited in an anecdote concerning him. A slight fire having broken out in his house while he was in the street near by, a neighbor called out to him: "Doctor, your house is on fire!" He made no reply

but quietly walked into the house. Seeing him so cool, a bystander asked his neighbor and intimate friend Judge Lyman, "What do you suppose the Doctor is going to do?" "Doubtless," answered the judge, "he will consult Count Rumford's works to ascertain the best means for extinguishing fire!"

Dr. North lived to the good age of seventy-three, his later years being passed in comfort and in complete enjoyment of his activity and usefulness; perfect health rewarded his philosophically temperate habits of life. The last act of his life before he was deprived by paralysis of speech and locomotion, was to visit an interesting and important case of disease, and the last connected sentence which he succeeded in uttering was addressed to the physician who took his place in attending the patient.

A memorandum is in possession of the writer bearing the date of his death, December 29, 1843, giving the following particulars: "Height five feet nine inches, an oval and intellectual head with a periphery of twenty-two and six-eighths inches, mental line fifteen and one-fourth inches, temperament neuro-sanguine, age seventy-three."

(One who knew him well wrote of him thus.)

"Dr. North was distinguished by zeal for his patients and the highest degree of integrity, frankness, and disinterestedness, in his intercourse with them, and his efforts for their benefit. His interest in his profession, as a branch of science and as a means of benefiting society and individuals was strong and earnest, and whenever circumstances required took the precedence of all other subjects, yet his mind being incessantly active, was generally occupied when at leisure from the cares and calls of a physician's life with some favorite subject unconnected with the more practical parts of his profession, in expressing his views upon which he should exhibit an eloquence and an amount of information often astonishingly beyond the importance of the topic, in the estimation of many. His ever active mind dwelt in a remarkable manner in an unworldly sphere of thought and reflection. He lived the life which we attribute to an ancient philosopher, unsuccessful in accumulating property yet in debt to no one; indifferent to a great extent as to his dress and manners, and to his worldly interests, he was often apparently unconscious of the presence of his fellow beings unless his attention was especially called to them. As might be conjectured from this sketch his social views were uncommonly pure and high, and it was impossible to suspect him of such a duplicity. His manners had the simplicity and modesty of those of a child."

The number of individuals yet living who remember the person

of Dr. North is rapidly growing small; our hope is that this inadequate sketch may increase the number of those who will respect his memory.

APPENDIX.

A. BIBLIOGRAPHY OF THE WRITINGS OF ELIJAH NORTH, M.D.

- "Account of the Typhus Fever and its Treatment." *Phil. Med. Museum*; IV, pp. 16-39 (1861). A letter to Dr. John Redman Cox, editor, dated Goshen, Conn., Jan. 12, 1867.
- "Letter on Spotted Fever," dated February 12, 1868, addressed to the Rev. Dr. Eleazer Pritch. *Mercury Reporter*, Pimfield, 1868. Reprinted in his *Treatise*, pp. 98-102.
- "History of the Typhus Fevers, or the Malignant Petechial or Spotted Fever, as it appeared in Goshen, Connecticut, during the winter of 1865-66; with such Remarks as may tend to elucidate its Nature and to establish the best Method of Cure." By Elijah North. *Phil. Med. Museum*, conducted by John Redman Cox; Philadelphia, 1869. Vol. VI, pp. 280-291. Reprinted in his *Treatise*, pp. 126-128. [A letter dated Goshen, February 12, 1869, addressed to Dr. Elijah Watson, New Haven.]
- "Observations on the Hydrocele Capitis Infantum." *Phil. Med. Museum* (N. S.) 3, 55 (1816). [A letter dated Goshen, January 18, 1816, addressed to Dr. John Redman Cox, the editor.]
- "Observations on Cymosis Testicula." *Phil. Med. Museum* (N. S.) 1, 139 (1816). [A letter dated Goshen, April 20, 1816.]
- "A Treatise on a Malignant Epidemic, commonly called SPOTTED FEVER; interspersed with remarks on the Nature of Fever in General, etc., and an Appendix in which is republished a number of Essays written by different authors on this epidemic, with the addition of Original Notes, containing, also, a few original and selected cases, with clinical remarks." By Elijah North. New York: Printed and sold by T. & J. Swords, Printers to the Faculty of Physic of Columbia College, No. 169 Pearl street, 1821. 12 mo., pp. 250.
- "On Extraction of the Stones." An attempt to demonstrate that the bladder may be opened for the extraction of the stone by a posterior method of opening more conveniently to the surgeon and with much greater safety to the patient than by any other method hitherto discovered. *New England Journal of Medicine and Surgery*, XI, p. 112. Reprinted in *Phil. J. Med. and Physical Science*, August 1812.
- "On Pail." *The American Journal of Science and Arts*. Conducted by Benjamin Silliman. Vol. XI, pp. 66-78. October, 1826.
- "The Rights of Abolitionists Vindicated," by Vindictus. Three Essays. No. 1 in the *Case of Infidelity*, Norwich, January 21, 1829. No. 2.

In the *State Palladium*, New London, May 12, 1829. No. 3 in the *New London Gazette*, New London, August 19, 1829.

"*Outlines of the Science of Life*, which treats physiologically of both Body and Mind; designed only for Philosophers and other capable persons. To which are added *Essays on other subjects*." By Elisha North, M.D. New York: Collins & Co., 117 Maltese Lane, 1829. 4x, 292 pp., 12 mo.

"*Five Essays on Physiology (Anthropology)*," in *New London Gazette*. No. 1, January, (?) 1833, signed N.— No. 2, July 1, 1833, signed John Gilpin. No. 3, July 22, 1833, signed N. Nos. 4 and 5 unsigned.

"*The Pilgrim's Progress in Physiology*." Part I., abridged. By Ureth Toby. New London. Published by Samuel Green, 1836. 78 pp. 8vo. *Title as above*: "The Manly yet Charitable Physiologist's Progress in Anthropology; or a Short Account of the Art of Making Nice and Useful Demonstrations with respect to Organized Differences." It contains a scrap of Part I., the whole of Part III., *Essays*, five in number, and an Epitome.

Dr. North also edited "*Morrison's Treatise on the Vitality of the Blood*."

B. Copy of a document in possession of the New London County Historical Society.

GROTON, January 8th, 1792.

Wee Whose Names are here Under-Wrighten Desidereth that a Town meeting May be Called as Soon as the Authority of Abene S^t town shall think proper for the purpose of procuring a Vote of S^t town to carry on the Small pox by Inoculation, as wee are Desirous for Our Selves or Some part of Our Families may have that priviledge that our Nabours hath had before us.

Sharon Smith
William Morgan
Samuel Adams
David Adams
Jabez Stoker
Othob^d Bailey
Jed Leeds

Nath^l Siles
Charles Smith
Edward Packer
Joseph Latham, Jun^r
Dad Parker
Solomon Perkins
Jesse Brown
John Woodman (s)
James Foley
Joseph Turner.

C. Extract from a letter (date not given) written to the Selectmen of Groton by Eben Ledyard. In possession of the New London County Historical Society.

Dr. Cooley offered to inoculate every person in Groton with live-pox at 4 pence, and give his hand to pay all expenses if any one got the small pox afterwards.

"[Signed] Eben LEDYARD."

D. Copy of advertisement in the *Connecticut Chronicle*, February 4, 1811.

Declaration. In justice to Dr. Elsha North, who is acknowledged to be a man of integrity and skill in his profession, and is believed, from his large experience in the small-pox, to be peculiarly well versed in the practice of vaccination, we, the subscribers have been induced to state that Dr. North was one among the first who made a vigorous attempt to introduce into this State the use of the cow-pox. Ten years have elapsed since his efforts for this purpose were commenced. The cow-pox, like all other new diseases, met, for a considerable length of time, with the most determined opposition. The time has, however, at length arrived in which almost every one acknowledges its utility. We, as well as Dr. North, highly approve of the generous method adopted by the towns of New London and Hartford to induce the people to avail themselves of this great blessing.

SAMUEL LYMAN,	} <i>Subscribers.</i>
WILLIAM STANLEY, JR.	
ERASTUS LYMAN,	
ERASTUS GRIMMOLD.	

GOSHEN, Jan. 14, 1811.

The subscriber informs the people in the adjacent towns, that he will with pleasure extend his practice of vaccination to any distance within a convenient day's ride from his usual place of residence. As he always prefers to use fresh infection, it becomes necessary to communicate the small-pox to numbers at the same time. This method of management is also peculiarly calculated to reduce the expense to each individual to a very moderate sum. The subscriber will, with promptness and gratitude, attend at their own places of abode, to all work classes as may apply to him for the purpose of receiving the cow-pox. As vaccination, from its very nature, can never be an object worthy the attention of every physician, the subscriber contemplates that those of his medical brethren who may not choose to engage in this practice will not consider this attempt to extend its benefits as any infringement on their medical rights and privileges.

[Signed] ELSHA NORTH.

GOSHEN, Jan. 30, 1811.

The above advertisement was reprinted entire in the *Connecticut Gazette*, New London, June 14, 1813, with the following addition:

The subscriber thinks proper to inform the public in this vicinity that he is ready to vaccinate in the manner he has formerly been accustomed to do, which is detailed in the above advertisement.

[Signed] E. NORTH.

NEW LONDON, June 8, 1813.

Now by H. C. B. In this same number of the *Connecticut Gazette* are two other advertisements of "Kine Pock"; one by Elijah Hoat of East Haddam, who offers to Vaccinate with "genuine Kine Pock matter less than four years old"; and one by Sylvester Wamster of Lyme.

E. Copy of advertisement in the *Connecticut Gazette*, New London, Wednesday, July 4, 1842:

The subscriber not long since visited the citizens of New London and its neighborhood that he had removed to New London, where he offered himself as a practitioner in physics and surgery, and having lately been informed that it was understood he did not intend to practice midwifery, he now takes this opportunity to inform the public that he will as readily attend on calls of that description as any other; also, that he has been much experienced in that part of his profession for twenty years past.

June 30, 1842.

EMMA NORTH.

F. Copy of advertisement in the *Connecticut Gazette*, New London, May 5, 1849:

To physicians, clergymen, schoolmen, and others whose duty it is to take the lead in society in cases where sickness is concerned.

The subscriber wishes to be permitted to give information that he has invented a new mode of performing the operation of lithotomy, or cutting for the stone in the bladder, which he is confident will greatly lessen the danger arising from that source. He hereby offers his services to any one who may have the misfortune to require a surgeon for that purpose. He also wishes to give information that he has so far improved the instruments used for drawing off the urine in cases of obstruction of that fluid, that in future no person need necessarily die from that cause alone. He has also now acquired experimental knowledge in the treatment of permanent strictures of the urethra by the *Cystic Bougie* (a species of knowledge not often acquired in the country), and hereby offers his services to any one who may be afflicted with that distressing complaint. He can also give correct advice and furnish the most improved trusses for ruptured persons. It may not be unuseful to state that, in the management of diseases of the eye I have had the pleasure to prevent total blindness and restore sight to twelve or thirteen persons during the last three years. These would now probably be moving about in total darkness, and be a burden to society and to themselves, had it not been for my individual exertions. Editors of newspapers in and about this region will probably confer a benefit upon society by giving this one insertion in their papers.

(Signed)

EMMA NORTH.

NEW LONDON, April, 1849.

We, the subscribers, being personal friends and medical brethren residing in the same town with Dr. North, believe the publication of the above will probably benefit society.

(Signed)

THOMAS COY, M.D.,
ANDREW ALLEN MERRICK,
D. T. BRADYARD,
S. S. PERKINS.

REPORT OF THE COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

About April 14th, one month ago, this committee awoke to find themselves without a head, and that they were considered exanimous. The chairman, Dr. Wm. C. Web, had removed from Newtown to Philadelphia, without fulfillment of his duties, and the contention was just upon us. Therefore we ask your forbearance.

We forthwith sent to all the towns and cities our circular, viz.:

New London, Conn., April 26, 1887.

DEAR DOCTOR.—The Committee on Matters of Professional Interest desire information on the following points:

1st. What are the fees and mileage for medical attendance in your neighborhood?

2d. What are the fees for obstetrical cases, complicated and uncomplicated? Proportion and number of cases attended by unqualified midwives?

3d. During the past year what proportion of death certificates filed with the Town Clerk were returned by persons not having graduated from recognized regular, homoeopathic, or eclectic schools?

4th. Do the towns in your vicinity pay the legal fee for the return of such certificates?

5th. Were there any cases lately coming under your notice involving medico-legal questions? If so please give brief account of such cases.

Please report before May 15th, proximo.

The committee ask this information because of its bearing on the bill now before the legislature, for the regulation of the practice of medicine.

Respectfully,

A. W. NELSON, } Committee.
E. K. BENT, }

The numerous answers since, first, that visits throughout the State are 75 cts. to \$1.40; mileage, 25 cts. to \$1.00; office, 50 cts. to \$2.00; second, \$3.00 to \$25.00 for ordinary cases. In country towns with low fees, nearly all obstetric cases are attended by regular physicians.

In cities with the larger fee, unqualified midwives thrive and grow fat. There they attend and report about one-third of the births. We should seriously consider whether the fee should not be made \$5.00 to \$25.00 everywhere, according to time, etc., bestowed. With poorer people, one or two hours' detention is usually well paid for by \$5.00. Further delay should bring an increased fee, and any visits after should be additional. None would be hurt and all benefited thereby. This \$5.00 everywhere lacks its darkness and secrecy. Better legalize it, and be rid of evil consciences, the trouble of many. If unprepared to attend poor women in their extremity, we ought to advocate schools for the proper training of midwives. The committee, however, believe the fixing of flexible fees everywhere, according to amount of attention, would bring most babies within the care of skillful physicians, whose compensation and experience would be highly satisfactory.

The fee for visits should also be elastic, office, 5¢ etc., to \$2.00, others visits \$1.00 to \$3.00, and upwards, not to foil competition of physicians, but to meet the needs of the community. The short visit at the poor man's house is fairly paid by \$1.00, and we can easily prolong our calls in fortunate homes to the coveted \$2.00 or \$3.00.

Setting up a high fee, we often irritate and revile the charlatans, and increase that danger. In thus endeavoring to bring the whole community within the fold of honest medical practice, the report of births and deaths will nearly all fall to us. We shall inadvertently do for society a great needed good—now impracticable.

The scores of other so-called schools will better be met with these compensations, and our honored name of physician without high sounding designations shall be the talisman everywhere to charm and soothe the sick and troubled.

Appended are three cases illustrative of the dangers arising from the attendance of these uneducated midwives.

A. W. NELSON, { Committee, etc.
EDWARD K. BOOT, }

(3.) In 1885, at New London, called to see a woman of 40, multiparae—reported very sick in labor. I found her dead. A non-graduate practitioner, as has before, had left her giving her a dark medicine. He had

been with her more or less for six hours. The pains, from his leaving, were continuous. He admitted giving ergot, but said it was ten drops of the extract. He had the placenta, and when he left he swore to return.

Autopsy ordered by coroner revealed unusual presentation, membranes not broken, and rupture of the fundus uteri five or six inches long. The os was only partly dilated. The woman was very fat.

A. W. S.

(2.) In 1886, at New London, a midwife who attends sixty cases a year, and is without knowledge, called a physician to see a woman of 40, multiparous, with the membranes ruptured and the os dilated to size of a silver dollar, but tense. The pulse was rapid, the temperature increased, and the woman distressed, but with only slight pains. She had been sick, and in labor two or three days without sleep. An opiate gave some sleep for the night, but the morning brought no improvement, and another physician, of large experience, was called. He advised an opiate and waiting. At evening, a man of greater experience did not approve of operation or instruments, and advised waiting. She gradually sank and died before morning.

A. W. S.

(3.) In 1887, at New London, this month, Drs. S. and B. were called successively and together to attend a woman in hard labor for twenty hours—from 11 A. M. to 3 A. M. the next day. Head in the upper vault, the os fully dilated, the scalp tumor filling the vagina, nearly. The midwife of No. 2 attending. The pulse was very rapid, 120 to 130, and difficult to feel from weakness, the agitation almost justification, the face pale, the pains slight and ineffectual. From 1 to 5 P. M. the distress from description had continued. Delivery without difficulty by long forceps, but no improvement of the distress and sinking. She died at 6 P. M. The woman was 37, multiparous, had never had any trouble in labor, and the pulse was normal. The placenta and funis showed by the stain of blood-suffusion that the child had been dead some hours.

A. W. S.

The committee submit the following draft of a proposed law to regulate the practice of medicine:

Members of the three incorporated medical societies of Connecticut, in good and respectable standing, and persons licensed by the Boards of Examiners—also by each State Society—shall use for purposes of practice and business the title of M. D., or give certificates of cause of death—coroners excepted—or be called upon to give testimony as medical experts in the State courts, and any person making otherwise a return of cause of death to the town or city registrar, or taking the title of M. D. improperly for purposes of deceit and fraud in business, shall be subject to fine of \$50 to \$100, and imprisonment for six months or less, in the discretion of the court.

The Boards of Examiners, appointed yearly of persons well skilled in

medical surgery and midwifery, shall examine persons claiming to be qualified for medical, surgical, or obstetrical practice, and license such persons found qualified, either as physicians or midwives, the latter of whom may practice as midwives and take payment therefor. Any other persons pretending to act as midwives and taking pay therefor shall be subject to fine of \$50, or imprisonment for six months or less, in the discretion of the court.

Midwives shall not make return of still birth, or of death of the mother, but in such cases shall call a physician who shall, in his just discretion, make such return or call the coroner. Midwives giving return of death in any case shall be subject to fine of \$50 to \$100, and, in the discretion of the court, to imprisonment.

Any midwife having a still birth, or death of child or mother, and not calling a physician or coroner, shall be subject to fine of \$50 to \$100, and imprisonment, in the discretion of the court.

OBITUARIES.

BENJAMIN FRANKLIN HARRISON, M.D., WALLINGFORD.

By JAMES D. McGAUGHEY, M.D., WALLINGFORD.

Benjamin Franklin Harrison, M.D., was born in the town of North Branford, parish of Northford, in the year 1811, the son of Elizer Harrison and Rebecca Bartholomew. His early life was spent on his father's farm, and later he was engaged in the occupation of school teacher. In 1836, he graduated at the Yale Medical School, and after a few months' hospital experience in New York city, began the practice of medicine with Dr. French in Old Milford. In September, 1836, he left Milford, and came to Wallingford, where he remained in active practice until September, 1846, when he disposed of his residence and business, and went to Europe, spending six months in Paris, listening to the lectures of Louis, Velpeau, and other celebrated French authorities of that time. After leaving Paris, he traveled extensively on the Continent before returning to America. The doctor arrived home in October, 1847, and opened an office in Cincinnati, Ohio, but was finally persuaded to return to Wallingford. Commencing once more the active duties of his profession in this town, he continued undergoing all the arduous work a country practice imposes upon a conscientious physician, until August, 1862, when he received a commission from Governor Morgan, as Surgeon of the First New York Volunteers, then in the field at Yorktown, Virginia. He continued with his regiment until its term of service expired in 1864, and after that he labored in South Carolina and Florida in the interests of the Sanitary Commission. At the close of the year 1864, Dr. Harrison resumed his practice in Wallingford, continuing uninterruptedly attending to his professional

lities, until his final illness, with the exception of two winters spent in the West Indies for his health. He died at his home in Wallingford, April 23, 1886, in the seventy-fifth year of his age, after an illness of three weeks of complicated cardiac and renal disease. He bore his pain and discomfort with scarcely a murmur, exercising in the interval from the beginning of his sickness to its end that peculiar philosophical bearing which had always been a well-marked characteristic of his throughout his whole life, under any and all circumstances.

Dr. Harrison was married June 8, 1835, to Susan Lewis of Wallingford, who died September 10, 1853, leaving one daughter; this daughter subsequently died at the age of seventeen. He married for his second wife, June 20, 1855, Virginia V. Abell, an accomplished and highly educated young lady of Franklin, Conn. The death of this wife (December 22, 1869), in a little over a year, was a great shock to the doctor, from which it took him a long time to rally. In 1883 he was again married to Miss Sara E. Hall, daughter of the late Joel Hall of Wallingford, who survives him, — a lady of most excellent qualities of mind and heart, and highly esteemed for her many virtues in the community where she is so well known.

Doctor Harrison was a man marked by his own peculiar individuality; almost entirely self-trained and taught, he seemed to make thorough use of every opportunity that lay in his way, to philosophize upon it, to deduct something finally practical, and to apply the knowledge thus gained when the proper time came. Thus, in whatever position he was placed, with the large aggregate of information which he possessed and could use, he could prove himself useful or impart that knowledge which would enlighten the minds of others and enable them to accomplish desired ends. He was positive, and when once he became decided, by a process of slow but consecutive reasoning, could not be persuaded to the contrary, unless he could see greater arguments produced than appeared to him in his own mind, and he generally covered the ground so well that an opponent had but poor weapons to attack with.

He was a great reader, and devoured everything of a useful or scientific nature that came in his way, comprehended it, and stored his information away for future reference and use. His

library attests the intellectual quality of his mind as to his appreciation of philosophy, history, religion, and morals, both ancient, medieval, and modern; science in all its departments; medicine in all its different aspects; sanitary and hygienic knowledge in all relations to the promotion of health, comfort, and prolongation of life.

He was systematically economical, which made him a thoroughly useful adviser while in the army, and also in the management of town and school affairs, in which he always took the deepest interest, and fought persistently against extravagance in the use of public money. Wallingford owes much to his sagacity, foresight, and shrewdness in her public affairs, and never regretted listening to and taking his advice.

He cared nothing for popular applause, and disclaimed to cater to any sentimental or political tastes for any kind of preferment.

He was singularly honest in his convictions, for to him they were founded upon incontrovertible logic, sustained by facts, with a feeling that he had a thoroughly practical understanding of the subject under consideration, and whether appertaining to school or municipal matters, or in anything else in which he took a deep interest, he held the same opinion, though in a hopeless minority.

In his profession he was attentive and skillful, and slow to adopt the many new-fangled ideas and remedies which have weighed heavily upon the therapeutic tree for the past decade. But, anything new that he was satisfied would accomplish more than the old, he would adopt and cling to tenaciously.

The doctor was uniformly polite, courteous, and kind; rarely ever given to despondency; quaintly humorous when in unusual good spirits, and one of the most interesting and charming conversationalists one would desire to listen to.

Yale College recognized the Doctor's sterling worth and scientific attainments by conferring upon him the degree of M. A. in 1872. He was especially interested in meteorology, and had faithfully kept a record of the rainfall as it occurred throughout the interval between 1856 and his death.

His services, and often laborious ones, were freely given, cheerfully given, to forward the interests of Wallingford; with his own hand he planted many of the noble oaks that beautify the streets. The borough of Wallingford will never forget the service Dr.

Harrison rendered in introducing the public water supply; he was largely instrumental in the successful carrying out of the plans which have given Wallingford one of the healthiest water supplies in the State of Connecticut. After the terrible Wallingford tornado, Dr. Harrison gave up a proposed pleasure trip to the Rocky Mountains, and devoted himself to caring for the injured, and faithfully disbursing the large fund contributed to benefit the sufferers.

He was one of the most strenuous supporters of our school interests, and his labors in that direction were unremitting, characterized by great judgment, firethought, and economy. Dr. Harrison's mind and ability were too great to be confined entirely to medicine. His desire to see the education of the young of Wallingford placed on a proper basis, and to see the town grow and prosper, and not be swallowed up in impracticable schemes, called forth at intervals throughout many years some of his best efforts, most practical thoughts, and most timely and enlightened advice. He studied and analyzed everything pertaining to educational advantages and methods, and worked hard to have those adopted that would bring the best results.

It is not uncomplimentary to his town to say, "there is not one left that can fill his place," for he possessed those qualities of slow but sure growth, perfected by years of reading, study, and reflection, with a mind by nature peculiarly fitted to receive and retain knowledge of the most varied and opposite kind, a mind made strong by the vast, voluminous, and painstaking reading of over fifty years, a head educated by perseverance to dissect analytically, and to build up synthetically, a broad and deep understanding of humanity in its relations to health and disease by virtue of his thorough knowledge of medicine; with an immense experience in all kinds of public undertakings he grew in the aggregate to possess those qualities that very rarely fall to the lot of a man circumscribed by the limits of a small town. The influence of Dr. Harrison is not buried with him; it will continue to live and grow, and increase into greater usefulness and life, as his material body returns to dust.

FLINY A. JEWETT, A.M., M.D., NEW HAVEN.

By LEWIS BAILEY, A.M., M.D.

Courtesy to custom of noting one deceased, honor to ourselves in that he honored us, and a sense of requirement—alike demand the tribute of a brief notice in memory of a brother.

In his earlier professional career, and in the prime of his activity, none was more ambitious for professional usefulness and distinction; no one was ever more active in advancing the interests of the Connecticut Medical Society, or more zealous in guarding the integrity and honor of its members; no one more relentless to its even seeming foes; no one more honored with its preferences and distinctions, than was Fliny Adams Jewett.

He was born at the Episcopal rectory in Derby, June 4, 1816. His father, Rev. Stephen Jewett, is reputed to have been something of an ascetic in his profession, who held sway over the then lonely parishes of the lower Naugatuck valley. The son seems to have inherited somewhat of his father's disposition. He was educated at home and in the diocesan school at Cheshire, graduating at Trinity College in 1837, and at the Yale medical school, two years afterward. His early impressions were never effaced. Born within its pale, he loved his church, was active in its councils, enjoyed the society of its dignitaries, was for some time assistant secretary of its diocesan convention, and in all the varied phases of his life he mostly preserved the character of a Christian gentleman. Possessed of a quick and able intellect, as a student he had a facility of acquisition and retention, even of the minute of things, and commanded the love and respect of his preceptors, becoming in a measure an intimate associate and protégé of the late Dr. Knight, whom he chose as an exemplar worthy of imitation, and whose gentleness of speech and manner did much to soften that which was naturally brusque and forceful in his pupil.

In 1866, on the resignation of Dr. Timothy P. Boore, the Yale professor of obstetrics, Dr. Jewett was recommended by his former preceptors and elected by the Yale corporation to the vacancy, which he filled with ability for seven successive years.

In the outset of the War of the Rebellion he was appointed by Gov. Buckingham one of three distinguished physicians to examine

the qualifications of our regimental surgeons, and on the opening of the Knight General Hospital by the United States Government, at New Haven, he was appointed surgeon-in-chief and major commandant. Physically and mentally he was fitted to command, and took delight in his post. I have said he was a "born abolitionist," but Government at that time allowed no absolute instructions, a personal enemy had the governmental ear and he was lodged a prisoner in Fort Lafayette for a very brief period, but on a due representation the Major was honorably acquitted, and restored to his position without loss of rank or pay, but deeply chagrined that he should have had himself open to invidious assaults, and been obliged to "bless his enemy."

As a man he was positive in his opinions, forcible in their expression, valiant in their defense, controverting opposite opinions with a curious intermingling of facts, ridicule, reasoning, and sarcasm. He was noble in stature, dignified and courteous in manner, social to an extreme, cordial to his friends, contemptuous to those with whom he differed. Being possessed of a convivial humor, with a ready expression of thought and unlimited fund of anecdote, he was a leading spirit among congenial companions. Financially he was not a success. He was prodigal; he was human. As a general practitioner he was an able, discriminating, and comprehensive clinician, and while in active practice was noted as a safe and successful counselor by a wide circle of the profession. Kind, sympathetic, and cheerful, his presence inspired hope. To those who employed him, he was "the beloved physician." But it was in surgery that he most delighted and achieved his highest reputation, visiting most of the towns of the State in the discharge of his duties, and oftentimes fearlessly and successfully operating where other prominent surgeons had deemed an operation impracticable. Says a friend: "As a surgeon he was in advance of the times, not only skillful but exceedingly benevolent, often performing formidable operations without charge. After the war he would do for a poor soldier whatever service his profession was capable of without reference to compensation." A sailor came to him with crushed fracture of the radius and ulna of long standing, and was successfully treated. The bill for operation and subsequent care was accepted in full "by the satisfaction of making a good arm." A case in detail will better

illustrate his liberality. A returned soldier with decaying teeth resumed his former employment in a match factory. Shortly his whole lower jaw became accreted. After waiting until life and funds were nearly exhausted, and speech was failing, he made application to Dr. Jewell. To his wife, who was present, the doctor said it was a doubtful case, and asked if he could bear to hear the worst. "Oh, yes," said his wife. "He has already been told that life is in doubt." "Well, then," said the doctor, "If I can bone him up, three weeks hence I will remove the whole jaw." "All right," said the man. In due time the operation was performed, and when from loss of anchorage it became necessary to suture the tongue, "There," said the doctor, "He may die, but he can't swallow his tongue." The doctor was assiduous in care, and so fully devoted to the case that the man was restored to health with a useful membranous substitute for a jaw. When asked his charge for services in the case, he replied: "I charge you to go to a dentist and get him to provide you with a good set of teeth, and then come and show yourself, for I think you will be a harder man than ever before."

To illustrate his judgment. Being invited to a hospital clinic, where he had witnessed a thigh amputation, and listened to a few remarks from the operator in favor, the doctor was privately asked if the affair was well devised and performed. He replied in an undertone, characteristic of himself: "Yes, it was well done, only you should have amputated just below his cane, for the patient is not taxed up to live, and the stump will never heal." His judgment proved correct.

To illustrate his delicacy of touch and tact in examining wounds on the living and the dead. He was called to examine a victim of murder on East Rock; a man apparently some time dead, with a number of blunt wounds of the scalp. The doctor judged that they were made by a knife or its resemblance. Introducing his probe into one after another to learn of its depth and direction, his sense discerned a something which care and skill revealed to be the merest speck of steel, so small that it was feared it might oxidize or be lost, and so was carefully treasured. The doctor kept the matter to himself, but instructed the officer who was to arrest the suspected murderer to take promptly from the man any knife or similar instrument, if found, and bring it to him so as to

swear to its identity. A knife was found on the prisoner, and the speck of steel, under a powerful lens, was shown to exactly fit a broken point of one of its blades to the satisfaction of the court and the culprit, who said: "Ah! Doctor, that speck fixes me and I will tell you all."

Dr. Jewett was prominent and honored in various medical associations, but contributed but little to the medical literature of the day. He became president of the State society, was frequently a delegate to various other State societies, and was elected an honorary member of the New York State Medical Society.

In the American Medical Association his name is prominent as one of its organizers. One of its earlier meetings at New Haven "has kept his memory green" amongst the gray, as was attested at some of its recent sessions by kind inquiries, and a recounting of the courtesies and attentions then received at his hand, with mention of his wit and address in reconstructing clashing forces, and establishing at once apparently harmonious relations.

In his later years, tired of an active practice, he devoted his time to medical jurisprudence, and was an acknowledged expert in various matters pertaining to his profession. His personal bearing, positiveness of opinion, and endurance under cross-examination pleased whichever side he favored, and he was frequently called to testify before the courts. His opinions were well fortified by the authorities in all matters of fact, and wherein he chose to differ he was careful to convince the jury in his favor, if possible, by a sophistry peculiar to himself.

Once he was summoned as a witness on a railroad case in Vermont, again to Pennsylvania, and it was while in attendance as an expert at court in Providence, R. I., that he died of pneumonia in the sixty-eighth year of his age, leaving a widow, one daughter, and two sons surviving, one of whom, Dr. T. B. Jewett of Derby, a member of this society, has since died.

Though a knowledge of men's lives is always fading out, yet in men of so pronounced a character as Dr. Jewett's that knowledge fades slowly. That which was wanting in character is soon forgotten, but the memories of kindness and worth live far beyond the grave. *Ipse quidem iter ad patria, laus, benedictum,*

THOMAS BACKUS JEWETT, M.D., BIRMINGHAM.

By GUSTAVUS ELIOT, M.D., NEW HAVEN.

Thomas Backus Jewett, eldest child of Dr. Piny Adams and Jubel Barrington Jewett, was born in New Haven, January 9, 1836. He was educated at Rev. Dr. Everett's Rectory School, Hamden, at the Hopkins Grammar School, New Haven, and at Geo. William H. Russell's Collegiate and Commercial Institute, New Haven.

June 10, 1872, he married Miss Mary E. Beardsley, daughter of the late Dr. Ambrose Beardsley of Birmingham. He at once entered the office of Dr. Beardsley as a student of medicine, and soon commenced practice, for which he was not entirely unfitted. Twenty-five years ago his father, then a professor in the medical department of Yale College, was perhaps the most distinguished surgeon in Connecticut. The son early manifested a deep interest in his father's professional work, which the latter strove to encourage and develop. During the civil war he frequently accompanied his father while visiting the wards of the military hospital at New Haven, and assisted in performing operations and applying dressings. In 1877 he entered the medical department of Yale College, where he attended the lectures of the accomplished and eloquent Silliman, the dignified and classical Wilcox, and the dogmatic but practical David P. Smith—all now dead. He received a diploma in 1879, and subsequently continued to practice in connection with his father-in-law for about two years, at the end of which period he opened a separate office. He, however, continued to be more or less intimately associated with Dr. Beardsley until the death of the latter, in 1884. Dr. Jewett was afflicted by the death of his wife in 1879.

Early in 1884 he became affected with blood-poisoning, the infection having entered by a small wound of one finger. He never completely recovered his health, but died August 6, 1885, at the age of thirty-five. The immediate causes of his death were *angina pectoris* and embolic pneumonia, which attacked him nine days before his death. A second wife and two sons—one by each marriage—aged respectively seven and three years, survived him.

At his death he was medical examiner for the town of Derby, having been appointed in 1883, when the present doctor's law

went into effect. He was also a member of the board of burgesses of the borough of Birmingham, to which office he had been elected for a second term.

Affable and kindhearted, he had secured an extensive practice—a large part of it being surgical work, for which he always showed a decided preference. Reports of his cases may be found in the proceedings of the Connecticut Medical Society. "I am very weary" were the last words which he uttered as the breath of life passed from his body. These words give an almost dramatic effect to the conclusion of the career of one taken away in the prime of an active life. A large circle of friends and admirers, in whose behalf he had unhesitatingly undergone anxiety and fatigue, mourned his untimely death.

W. O. AYRES, M.D., NEW HAVEN.

By W. W. HAWKES, M.D., NEW HAVEN.

William Orville Ayres, son of Jared and Dinah (Benedict) Ayres, was born in New Canaan, Conn., September 11, 1817, and died April 20, 1887, in Brooklyn, N. Y., whither he had removed from New Haven several months before his death, being then in declining health.

He graduated at Yale in the famous class of 1837, which embraced many names now of national prominence. Among them we find, President A. L. Chapin of Beloit, William M. Evarts, Prof. C. S. Lyman, Edwards Pierrepont, Prof. Benjamin Silliman, Jr., Chief-Justice M. R. Waite, Dr. Andrew Leete Stone, and Samuel J. Tilden,—although the last-named did not graduate.

In early student life, Mr. Ayres manifested rare aptitude and enthusiasm in natural history, in one branch of which, ornithology, he attracted the attention and acquired the warm friendship of J. J. Audubon, who attached the name of "his young and learned friend" to a wood-pecker, *Picus Ayresii*, described in his *Birds of America*. This friendship continued till Audubon's death, in 1844, at which time young Ayres, convinced that so field had been left unexplored in ornithology, turned to the water, seeking with attractive life and pregnant with interest for him. Part

of his researches among fishes were published in the *Proceedings of Boston Society of Natural History* for 1848 to 1852, of which society he was the curator from 1845 to 1852. His zeal in ichthyology continued in the West, where he was deemed authority in that branch for years.

During 1845-1847, he taught at the academy in Sag Harbor, L. I., and the latter year became principal of the Elton Grammar School, Boston. The same year he married Maria J., daughter of Samuel T. and Phoebe Hildreth, of Sag Harbor. Their two daughters, Kate Maria and Clara Hildreth, were born in San Francisco, and all these survive their husband and father.

He contracted the California fever early in the fifties, and, in 1854, after receiving his degree in medicine at Yale, he sailed by way of Panama for San Francisco, where, during twenty years, he received a liberal patronage in his profession, besides being elected professor of theory and practice, in Toland Medical College, and dean of the faculty from June, 1862. Bored by the temptations and infected by the common spirit of speculation, he embarked upon a misadventure which cost him the fruits of years of skill and prudence. Nearly crippled financially, the West, never preferable to him, had even less attraction now; and he turned East, in the vain hope of perfecting an enterprise which had proved impracticable on the Pacific slope. Again reverses overtook him; and, after tarrying in Easthampton, Mass., awhile, he located at New Haven in 1874. During the remainder of his life he was connected with the medical department of Yale as lecturer on nervous diseases, and, in 1886 and 1887, occupied as well the chair of theory and practice.

As a New Havener he seemed conspicuous in all things good at all times. Particularly in affairs of the university was he almost ubiquitous, be it in the various lecture-rooms, the library, or the athletic field; and his genial, affable, interesting, and interested manner challenged universal remark, and won him the encomiums and good-will of all. To the young especially he seemed approachable, and many a student and junior practitioner, out of a dubious locus, nurtured courage to success, begotten of a quiet and candid communion in the office of the hearty old doctor; for his interest, optimism always rose steadily to the surface, despite the depressing reverses which it had been his fortune to ex-

perience. His buoyant and tranquil spirit saw good in everybody and everything. "I have never allowed myself to become stampeded with any one nor to wish any person harm."

He was what some term an "omnivorous" reader, and his broad culture and diversified talents wrought a powerful influence as a writer and teacher. In lecturing, his digressions would oftentimes lead to fascinating views. As an author he was facile, vigorous, fertile, and restrained. If collected, his articles would swell several volumes, for he was almost continually contributing to one or other of the following publications: *Journal of Natural History*, *Overland Monthly*, *Popular Science Monthly*, *Scientific American*, *Boston Journal of Commerce*, *Manufacturers' Gazette*, *Harper's Young People*, and *S. Nicholas*, in which he often wrote anonymously, not to prejudice his professional standing.

He was a constant attendant at the meetings of the New Haven Medical Association, of which he was president when his last sickness overtook him as if by surprise; for he had often accounted himself insusceptible to external impressions, with his strong frame and restless energy.

His stalwart physique; his high religious fervor; his firm temperance principles; his noble morality, before which the very relation of vice and the ribald jest faltered; complete the symmetry and character of the man who, of all those departed, is perhaps most missed among the profession in New Haven.

GEORGE BRONSON FARNAM, M.D., NEW HAVEN.

By WM. H. CARRANT, M.D.

George Bronson Farnam, the eldest child of Henry and Ann S. Farnam, was born in New Haven, on August 21, 1811. His early education was obtained in Sing Sing, New York, and at the Hopkins Grammar School in New Haven. His father's large railroad interests compelled him to move to Chicago, and when George was not at school he lived in the family of President Porter of Yale College.

He joined the class of 1832, at Yale, but during his sophomore year an attack of the disease from which he was never afterwards

entirely free, inflammatory rheumatism, compelled him to leave and give attention to his health. He was ordered a long sea voyage and made the trip around the world in a sailing vessel.

In 1860 he took a course of baths at *Les bains*, and after that for the first time felt able to take up study again. He then entered the Medical College at Yale, and was graduated in 1869. The following year he went abroad to study, first to Edinburgh, where he took a course in clinical surgery under the renowned Lister, and in diseases of women and children under Alex. R. Simpson; then in London in the Royal College of Physicians, and in Kings College with Dr. Alfred Meadows, Dr. Prothero Smith, Dr. Charles West, Mr. Christopher Heath, and Sir Henry Thompson. He afterwards visited Paris and spent some time in the hospitals there, and returned home to practice in his native city in 1872, with every prospect of success that natural taste, thorough preparation, and social advantages could give.

Along with his friend, our late associate, Dr. S. Henry Bronson, he organized the New Haven dispensary, and applied himself to the alleviation of the suffering poor who sought its aid, assisting them not only with his professional skill but the deserving freely with his purse; unostentatiously, "not letting his right hand know what the left hand gave," and always with the kindest and most sympathizing words, and the recipient never felt burdened with a sense of an obligation to be repaid.

He took the liveliest interest in the New Haven Hospital, to which he was appointed on the visiting staff in 1871, serving successively as physician, surgeon, and then on the consulting staff until his death. Feeling that the best professional work requires good nursing for its most successful results, he early appreciated the advantage it would be to the hospital to have the most intelligent class of nurses working in its wards; he therefore advocated the establishment there of the present efficient Connecticut Training School, and gave valuable instruction to its pupils. His own work in the wards was characterized by careful study in diagnosis and skillful treatment afterwards.

In the winter of 1874, the disease from which he had formerly suffered so severely again attacked him, obliging him thereafter, so long as he was able, to go to a milder climate during the winters, so that it was never possible for him to take up active professional

work again, though to the very last he kept up an undiminished interest in the profession of his choice.

In April, 1870, he married Miss Caroline Wells, daughter of Dr. Thomas and Jess E. Wells, and they had seven children, all of whom survive their father.

This incomplete sketch of the life of one of the noblest characters that ever graced our profession gives no idea of the heroism with which he met the fate that cut him off from the enjoyment of the practice of the profession he was so well qualified by natural tastes and careful preparation to adorn.

His rheumatism took the form of *progressive arthritis deformans*, going on to the ankylosis of all his joints, until at length he had lost the partial use of the fingers of his right hand, his left shoulder, elbow, and fingers. It attacked the vertebral articulations at an early period, and the sheaths of the spinal nerves were also affected, and during the early part of his confinement his sufferings were severe, but as the vertebrae became rigid the pain was less acute. The articulations of the ribs with the vertebrae participated in the ankylosis so that his respiration became entirely abdominal. He had both mitral and aortic insufficiency, and there were also evidences of cirrhosis of the liver; his death came about from cardiac failure. During his whole confinement, he kept himself posted in his profession; reading the journals with avidity, he was ever ready to discuss medical subjects with his professional friends, and those who had the opportunity to talk with him found they could bring him but little new. Within a few days of his death he was in earnest consultation with a professional friend over an intricate case, and showed himself as fully alive to the subtleties of neurological phenomena as the most active practitioner.

He bore his suffering and the confinement, and the deprivation from work, with a patience and cheerfulness that was truly heroic. Regretting keenly his enforced idleness, he never repined. Visitors approaching his bedside with feelings of commiseration, in a few minutes would forget that they were with a sick man, so cheery and pleasant and fresh was he in conversation, and they could but recall with astonishment afterwards that they had been talking with a man who had not left his bed in years. His memory of persons and places was surprising; he kept himself familiar with changes he could no longer see, and he never permitted his inter-

est in the world around him to flag; he neither allowed the world to grow away from him, nor himself to become isolated from the world. It seemed to those about him that he had no thought of himself but to be always on the alert to do a kindness for others. No scheme of general or individual benevolence that commended itself to his judgment failed to get a favorable and liberal response. Earnest but free from cant in his religion, charitable in his judgments, he was loyal without cavil in his friendships. His regret at his inevitable early death which he looked calmly in the face for years was mainly that he was to leave his dearly loved family before his children would be old enough to appreciate how much more than a sick man he really was.

THOMAS PYM GIBBONS, M.D., NEW HAVEN.

By WILLIAM G. DARGENT, M.D., NEW HAVEN.

DIED.—In New Haven, April 3, 1888, Thomas Pym Gibbons, in the sixty-second year of his age.

Both the paternal and maternal ancestors of Dr. Gibbons were among the earlier settlers of Pennsylvania. The former came from Wiltshire, England, in 1684, and took up a large tract of land in Lancaster County, and here, where for many generations his ancestors had cultivated the soil, Dr. Gibbons was born, on the 27th of April, 1824. His mother's name was Pym, and her family had settled in Chester County as early as 1732.

Abraham Gibbons, the father, was a prominent and consistent member of the Society of Friends,—a denomination once numerous and influential not only in the State of William Penn, but also in the adjoining States. As a sect, they were firmly attached to the principles which they professed, believing in education, and having their own schools and colleges.

Dr. Gibbons received his education at one of their most celebrated colleges, that at Westtown, Penn., which was under the exclusive control of the orthodox branch of the Quakers. His tastes not inclining to his father's occupation, he entered Jefferson Medical College, where he graduated with honor in 1851. He at

once commenced his professional career in Philadelphia, and passed two busy years in quizzing, assisting *obiter* surgeons, notably Professors Joseph Parquest and Thomas D. Mutter, in important operations, enthusiastically studying surgery, which was his favorite branch, and successfully caring for the patients who fell to his lot as a young practitioner.

At the end of two years he was taken ill with rheumatic gout, and, after a protracted and very serious illness of several months, found it necessary to go abroad to recuperate his shattered health.

On returning from this trip he, for a time, relinquished active practice and engaged in business with his brothers, R. P. and W. G. Gibbons, who conducted a rolling-mill in Wilmington, Delaware. He remained with them until the outbreak of the war, and in 1861 entered the volunteer medical corps of the army. In this service he remained actively engaged, until compelled to resign in 1863 because of a severe illness. His military work was marked by the same thoroughness, fidelity, and humanity which was characteristic of the man. He was at one time director of the Douglass Hospital in Washington, and at different times performed duty on the field and in various hospitals in Alexandria and elsewhere. At the time of his retirement he was on the staff of Major-General Schenk, a position gained by his having skillfully and successfully managed a dangerous wound in the general's hand, which threatened to make necessary a sacrifice of that member.

In 1867 he married Miss Harriet Prime, daughter of Frederick Prime, of the once prominent banking firm of Prime, Ward & King of New York city.

Between that time and 1878, the date of his coming to live in New Haven, he made two somewhat extended European trips, and resided successively in Baltimore and Philadelphia. After settling in New Haven he began to practice, having an office in his residence on Trumbull street. He connected himself with the city and State medical societies, and gradually won a lucrative, though not a very extensive practice.

In the winter of 1885-'86, when about to start on a southern trip to avoid the extremes of the New England climate, he was suddenly taken ill and was obliged to take to his bed. This illness, based upon a crippled condition of his heart, proved fatal,

and, after some months of suffering, patiently and cheerfully borne, he passed away, on the third of April, 1856. Mrs. Gibbons survives him.

Dr. Gibbons' short residence in this State and his retiring disposition contributed to make him but little known to his professional brethren; but among those who did know him his character was thoroughly appreciated. Not courting notoriety, nor aiming at a large practice, which his health would not allow him to pursue, he yet secured a gradually increasing number of patients, and to each became not only a valued and trusted medical adviser, but a true and loyal friend. His wide and thorough knowledge of professional subjects, his large fund of general information, and his strong individuality made his counsel valued and the man himself loved and respected by all who knew him. In his high integrity, purity of mind, and elevation of character were recognized the outcome of a youth and early manhood passed among the noble traditions of the Society of Friends, whose principles were his. His life was one filled with earnest and fruitful effort, yet, needed as it was, it could be but a suggestion of what might have been had not early impairment of health prevented that sustained effort so necessary to the maintenance of a prolonged medical or surgical practice. In losing Dr. Gibbons the community has lost a physician of unusual ability, a loyal and patriotic citizen, and a pure and high-minded Christian gentleman.

C. M. CARLETON, M.D., NORWICH.

By L. S. PAPPOCK, M.D.

Dr. Charles M. Carleton was born in Waterford, Me., April 28, 1838. As a child, he was slender and delicate, and suffered a good deal from asthma. On account of his feebleness, he was unable to attend school as much as most children, till he was ten years old; and when permitted to go, he was much behind in the studies pursued by most children of his age. A few years, however, found him in advance of those older than himself. The schools in the small towns of his native State were not what an

ambitious boy desired, and at the age of fifteen he was very desirous to attend some academy where he could receive greater advantages. But his parents were poor, and could not afford to gratify him. Disappointed in this, his father was willing to send him to a relative in Portland, Me., where he could take writing lessons of one of the best teachers in the art. In this he became so proficient, that he was soon able to give lessons, and thus contributed to his own support. By the death of his father in 1836, he was again doomed to disappointment, and felt that he must abandon the thought of obtaining the education he so much desired, and in 1838 he went to Boston hoping to obtain a situation in a bank. While hesitating as to the best course to pursue, he fortunately called upon his father's cousin, at Cambridge. She at once became interested in his welfare, and so encouraged him by good advice and generous offers of aid, that he decided to go to the academy at Exeter, N. H. He was there but a short time when, in the fall, his sight almost failed, and so serious was the trouble that the oculist feared he would become totally blind. An entire rest from all work became imperative. Almost driven to despair, again he returned home and sought the needed rest. It was during 1839 that he visited his brother-in-law, the late Dr. Wm. Warren Greene, a surgeon of distinguished reputation, and who had students under his instruction. It is probable that while here he became fascinated with the study of medicine and surgery, and as his eyes had improved, he cautiously ventured upon a little use of them. No harm resulted, and improvement continuing, in the fall of 1839 he entered Harvard Medical School, from which he graduated in 1841. It is quite characteristic of his impulsive nature, to find that during his first course of lectures, he married Miss Mary Greenwood of Boston. She was a member of the New Jerusalem Church of Bowdoin street. Jan. 1, 1840, Dr. Carlsson joined the same, and they both continued their membership till death.

Soon after his graduation, in 1841, he removed to Norwich, Conn., which became his home for the remainder of his life. Dr. Carlsson was an enthusiast in his profession, and a hard worker. He could not be idle. His temperament was such that he ~~was~~ ^{worked} work, and his will was indomitable. No efforts were spared to carry out any project which he desired to see accomplished, and

whether by night or day he pushed on, often to the serious injury of his health.

His favorite study was surgery, and the civil war opened a free field for his study and advancement. He enlisted as surgeon of the Eighteenth Regiment, Connecticut Volunteers, and his first duties were at Baltimore. While there he exhibited such rare executive ability and superior skill, that he was made acting Brigade-Surgeon of Hospitals and Defenses at Baltimore: a very complimentary appointment for one so young and in short a time in the service. But, while here, his old troubles rapidly returned, and on account of weakness of the lungs, he was obliged to resign his position and return home. With that characteristic earnestness which belonged to him he at once sailed for Europe in search of health. While there he pursued a post-graduate course at Montpellier, France. He returned from this trip in better health, with better knowledge of the language, and with a splendid supply of surgical instruments.

With improved health, he again resumed practice in Norwich; but his practice was not confined to this city. He was favorably known throughout the county, and in many parts of the State he performed important and successful operations. As an oculist he excelled; and it no doubt contributed much to his happiness that he was enabled to restore the sight of many, who, like himself in early life, were threatened with blindness.

Dr. Carleton being desirous to practice surgery only, had been less intensive to general practice; and being often called away by emergencies, he was thought by some to neglect his patients. But it ill becomes me to speak of neglect! When the responsibility of an important case rested on him, he knew no rest or sleep till the danger was passed. None could be more attentive. He was kind to the sick, delicate in his handicraft, quick to see danger and never appalled by it. He possessed the eagle's eye, the lion's heart, and the woman's hand, which some one has said were the requisites for the good surgeon.

During his life, he held many positions of honor and trust. He was surgeon of the New London & Northern Railroad, surgeon of the Third Regiment, U. N. G., Medical Director of the State, with the rank of Lieut.-Colonel. He had been President of the Connecticut Medical Society, Honorary member of the State Medical Society of Maine, and of the Neurological Society of the United States.

Dr. Carlisle was twice married; his second wife and two sons of the first marriage survive him. He died December 20, 1856, of pneumonia, after a short illness. Funeral services were held in Park Church in this city, by Rev. Dr. Howe, where a large company of friends had gathered to perform the last service to the kind friend and skillful surgeon. His body was removed to Massachusetts for burial, where it rests by the body of his patient and gentle wife, the companion of his trials, his anxieties, and his success.

E. FRANK COATES, M.D. MYSTIC BRIDGE.

By FRANK A. COATES, M.D.

Eliaz Franklin Coates, son of Eliaz and Maria Philips Coates, was born at Plainfield, Connecticut, August 21, 1820. He read medicine with Dr. Cogswell of Plainfield, and in 1843, at the age of 22, was graduated from the Yale Medical School. Soon after graduation he settled in Portersville (near Mystic River), Connecticut.

His practice was always large and extensive, involving much exposure, and rough riding; but he was an enthusiast in his profession, and for forty-three years no weather was too stormy, no night too dark, for him to cheerfully answer the call of the rich or poor. He loved his work; and with the exception of a three months' stay in New York, in attendance upon medical lectures, the vacations which he allowed himself may be counted upon the fingers; the longest and best, four years before his death, being of only two weeks' duration. For a short time he had associated with him as partner Dr. A. W. Coates, an uncle of his, and a classmate at the medical school; but about the year 1854 this partnership was dissolved, and he continued the business alone until 1875, when the writer of this sketch began practice with him. Later, in 1879, a partnership was formed under the name of E. F. & F. A. Coates, which was continued until his death. While always attending to general practice, he had a fondness and aptitude for obstetrics and uterine disorders. His later years were more

especially devoted to these branches, in which he had acquired a widespread reputation.

Early in the winter of 1885 and 1886, I noticed that his health was falling, and urged him to take a well-earned and much-needed rest, but to no purpose; and when in the following summer I entreated him to leave his cares until such time as health being restored he might be able again to assume them, his only reply was, that "If his usefulness was over, he had no desire to live longer." Thus he worked on, gradually failing in strength, until when he made his last visit it was necessary to assist him from his carriage to the bedside of his patient. Five weeks later he died — December 5, 1886 — aged 66 years.

ALANSON H. HOUGH, M.D., ESSEX.

By RUFUS BAKER, M.D., OF MIDDLEBURY.

The early physicians of New England were noted for self-sacrificing devotion to their noble calling. They were brought, almost daily, into contact with the suffering and helpless, who looked upon them as the only human beings from whom they could obtain relief. Their faithfulness won for them, in very many cases, regard and deep affection such as was given to no one else outside the home circles of their patients. Not infrequently this was their only reward. But they had chosen their profession in the belief that its mission was higher and nobler than the mere acquisition of wealth. Having the poor always with them, they went about doing good with untiring zeal. Such a physician was Alanson Hodges Hough, whose life I now faintly sketch.

His first ancestor in America came from England about 1625, and settled in Marshfield, Mass., whence, he moved to New London, Conn., in 1659. Dr. Hough was born Oct. 26, 1820, in Bourah, Conn., on a farm which had descended to his father from his grandfather. He received such education as the common schools of that day afforded and his work on the farm permitted. While nursing an invalid brother, his tact and adaptability in caring for the sick attracted the attention of Dr. Johnson, the attend-

ing physician, at whose suggestion and in whose office Dr. Hough began the study of medicine. He attended courses of lectures at the Berkshire Medical Institute, Pittsfield, Mass., in 1824, and at the Yale Medical School, New Haven, Conn., in 1826-32, and received his diploma March 5, 1832.

Like many of the young men of that day, his relatives being unable to assist him in obtaining a professional education, he was thrown upon his own resources for the money to pay his way. This he got by teaching school and in other employments. He soon gave the writer a humorous account of his first trip to attend lectures at the Yale Medical School. He trudged all the way from Bourne to New Haven, the Mecca of his hopes, clad in buttoned homespun, with pack upon his back.

Dr. Hough settled in Essex, Conn., in 1832, where he remained until he died, full of years and beloved by his fellow townsmen, Aug. 18, 1886. He was never robust in health, and was therefore unable to endure some hardships and privations incident to the life of an active medical practitioner to which his kind and generous nature prompted. But he kept the even tenor of his way, often facing night and storm to find, perhaps, a patient not needing medical attention and nursing so much as he himself needed them.

I formed his acquaintance, which was intimate for seventeen years while I resided near him, in my early practice. He had a well-balanced mind, sound judgment, and abundant common-sense, and was an able and valuable counselor to me at the time I most needed such a friend. He was unselfish in his intercourse with his brethren, generous in his inquiries, and strictly conscientious. Frank and ingenuitous, honorable in all his dealings, sensitive and tender in his feelings, he detested treachery and hypocrisy of every kind and under all circumstances. He was a firm and steadfast friend, through evil as well as good report, an affectionate husband and father, a good citizen, and an honest man.

Dr. Hough was intensely interested in the cause of education, and served several years as school visitor. He was elected to the State Senate in 1855, and served as chairman of the Committee on Human Institutions. A firm believer in the truths of Christianity, he was an exemplary and consistent member of the Baptist Church in Essex, in which he was a deacon from 1840 till his

death. He was twice married: his first wife, Mary Lathrop, died in 1833, leaving no children; his second wife, Susan E. Williams of Essex, died Nov. 15, 1872, leaving seven children.

Looking back upon a long professional experience, and remembering my brethren who have died, but still live in our affectionate memory, I am again reminded that the best thing that can be said of any man when he is dead is that he was a good man and tried to do his whole duty. In saying that of Dr. Hough, I can but speak the truth for all who know him. Those of his profession who survive him will be fortunate indeed if, by imitating his virtues as a man and as a physician, they earn as great praise and leave as sweet a memory.

WILLIAM C. BENNETT, M.A., M.D., DANBURY.

By A. E. ADAMS, M.D.

Dr. William Comstock Bennett died in Danbury July 12, 1886, in the 51st year of his age. He was a son of Ezra P. and Sarah (Comstock) Bennett, and was born in Bethel, Conn., March 7, 1836. He was prepared for college at the Hopkins Grammar School, New Haven, Conn., and at the Dudley Institute, Northampton, Mass., and entered Yale in the class of '57, July 23, 1853. He left December 20, 1853, and entered the class of '58, September 13, 1854.

During the summers of 1858-9 he studied medicine in Danbury, Conn., with his father, and during the winters attended the lectures in the College of Physicians and Surgeons, New York. March 1, 1860, he received the degree of M.D. there, and until he entered the army practiced medicine in Danbury, Conn. July 23, 1861, he was mustered into the Fifth Connecticut Infantry as Assistant Surgeon, and June 28, 1863, was honorably discharged, and in the same month was appointed Assistant Surgeon, United States Volunteers. December 4, 1863, he was promoted to Surgeon, United States Volunteers, and was assigned to the Twelfth Army Corps. He was afterward attached to the Twentieth Corps (Stocum's), and promoted to the rank of Medical Inspector (he was then 28

years old). Feb. 15, 1865, he resigned at Savannah, Ga., and has since been practicing medicine in Danbury, Conn.

In July, 1864, he received the degree of M.A. from Yale. Dr. Bennett has filled town offices in its civil and educational departments, and it is with unfeigned grief that the medical profession and the community at large realize their loss.

His father, Dr. E. P. Bennett, with whom he was associated in practice for many years, was a shining light in the profession. Since his death the profession and laity have looked to "Dr. Will" for counsel on account of his sound judgment in diagnosis, wise discretion, and rare operative skill in surgery, and the name of Dr. Bennett has become familiar in every household in this section. By his death the profession lose a wise and honorable counselor.

JAMES WELCH, M.D., WINSTED.

James Welch, M.D., the son of Benjamin Welch, M.D., was born at Norfolk, Conn., January 7, 1807, and died in Winsted, Conn., November 22, 1886. He pursued his medical studies under the direction of his father and of his brothers, Drs. Asa G. Welch of Lee, Mass., and Benjamin Welch of Salisbury, Conn., and was graduated at the Berkshire Medical Institute at Pittsfield, Mass., in 1830.

After practicing his profession for a few months in Sandisfield, Mass., he located, in 1831, in Winsted, Conn., in response to an urgent invitation given him by many of the leading men of that town. He continued in active practice in Winsted until within a few weeks of his death, excepting an absence of a few years on account of failure of his health, when as soon as it was restored, after having been associated with his brother Dr. Asa G. Welch in practice, he returned to Winsted. His professional activity extended over a period of nearly 57 years.

Dr. Benjamin Welch and his five sons, of whom Dr. James Welch was the third, were engaged in the practice of medicine within an area of about thirty-seven miles in Litchfield and Berk-

shire Counties, often meeting each other in consultation. Of these was Dr. Wm. W. Welch is still in active practice in Norfolk, the scene of his father's professional labors.

Dr. James Welch had six children, of whom three sons survive him. Of these two are practitioners of medicine, one, Dr. Edward Welch, succeeding to his father's practice in Winsted, the other, Dr. Wm. C. Welch, being located in Ansonia, Conn., and James A. Welch, a druggist in Winsted, many years, and another son, Dr. John B. Welch who was assistant surgeon of the 12th Regiment, Conn. Volunteers, and died at Ship Island, Feb. 13, 1862.

Up to the period of his death, Dr. James Welch conducted an extensive and successful practice, both consulting and private. He possessed, in an unusual degree, attributes which not only fitted him for the successful practice of his profession, but which secured for him the respect and confidence, and even the affection, of his patients and fellow-townsmen. He was a man of strong character, and was pure and upright in his life. He had that most important qualification of a successful practitioner of medicine, a genial and courteous nature, which bring cheer and awaken courage and hope in the sick room, qualities which experience has shown to be not among the least of remedial measures. To him the practice of medicine meant the relief of human suffering from disease and its cure if possible; to accomplish this end he was untiring in his efforts, and was ever ready to sacrifice his own comfort, no less for the poor than for the rich. His life was one of devotion to the duties of his profession which possessed for him genuine scientific interest and which aroused in him much quiet enthusiasm. He was an acute observer of the phenomena of disease, and was capable of accurate and fruitful generalization from the results of his own wide experience. Throughout his career he kept abreast of the advances in practical medicine, and never allowed his ideas to become fossilized. He brought to the management of diseases under his care wise judgment, well-sifted experience, accurate knowledge, and skillful treatment. While always open to the reception of new ideas, he was always wisely conservative in the retention of methods of treatment, the utility of which had been thoroughly tested by his own experience.

He was, for example, throughout his professional career an unwavering advocate of a method of treatment which has witnessed

many vicissitudes, namely, the practice of venesection in puerperal convulsions, and this treatment, in his extensive obstetrical practice left nothing to be desired.

His faith in the curative and palliative efficacy of drugs did not make him lose sight of the necessity of hygienic treatment. He was in the habit of giving to his patients minute instruction in regard to their diet, clothing, exercise, and sanitary surroundings.

His long residence in one place, and his kindly, social nature brought to him, in the course of time, an intimate knowledge of the family history of his patients, of their constitution inherited and acquired, of their habits and surroundings, and of their predisposition to disease, and he availed himself to useful purpose of this knowledge of personal factors which are so important and so often lacking in the routine of city practice.

While not free from the hardships, Dr. Welch enjoyed the special compensations of the life of a successful and respected practitioner of medicine in the country, who, as a rule, has more intimate personal and social relations with the families under his professional charge than his brother practitioner in the city, and whose position, founded upon the respect and confidence of the community, is eminently one of influence and of opportunity for good in many directions.

Dr. James Welch was the type of such a practitioner of medicine, whose best legacy consists not in literary contributions to medicine, but in a mass of human suffering relieved, in lives restored to health, and in the gratitude of the large number who mourn his loss. The memory of such a man is long preserved in tradition in the region where he lived, worked, and died.

APPENDIX A.

AN ACT

REGULATING THE PRACTICE OF MEDICINE.

SECTION 1. On or before October first, 1887, every person engaged in the practice of medicine, surgery, or midwifery in this State, at that date, is hereby required to register his name in a book to be provided and kept for that purpose by the clerk of the Superior Court of each county, stating, under oath, his or her name, place of birth, and present residence, from what medical college, if any, a graduate, and the date of such graduation; or, if practicing under a license, from what society, and at what date obtained; and if without either diploma or license, for how long a time engaged in practice. Every person complying with the terms of this section shall be entitled to a certificate of registration from said clerk, for which he shall pay a fee of one dollar, one-half of which shall be paid into the treasury of the county.

SEC. 2. From and after October first, 1887, no person shall commence the practice of medicine, surgery, or midwifery, in this State, or be permitted to register his or her name for the purpose of so commencing, who is not a graduate of a medical college, recognized as reputable by one of the legally-chartered medical societies of this State, or who is not a licensee of one of said societies, except as hereinafter provided; and all persons before so commencing to practice shall register as required by section one of this act, except as to the date therein required.

SEC. 3. Each of the State medical societies of this State shall, at their next annual meeting after the passage of this act, appoint one of its members in each county, who shall serve as an examining board for that county, and until their successors shall have been appointed, and notice of such appointment shall be given to the clerk of the Superior Court of the county in which they reside.

SEC. 4. Any person who may, after October first, 1887, desire to commence the practice of midwifery in this State, having neither of the qualifications required by section two of this act, shall notify the clerk of the Superior Court of such desire, who shall cause due notice of this fact to be sent to each of the board of examiners of the county in which the applicant resides, who, after proper notice given to such applicant, shall meet at such time and place as they may designate, and make such examination of the applicant as they may deem necessary, and, in their discretion, rec-

consent or refuse to recommend such person for registration, and by that decision the said clerk shall be governed; and every such person receiving a certificate from said clerk shall be permitted to practice midwifery in this State.

SEC. 5. No person not a resident of this State shall practice medicine, surgery, or midwifery in any town or city of this State, except for purposes of consultation with some one duly registered, without previously registering as required by the terms of this act.

SEC. 6. The secretary of each of the legally-chartered State medical societies of the State shall file with the clerk of the Superior Court of each county a list of medical colleges or institutions recognized as legal and reputable by his society; or, all of such secretaries may agree upon a single list; and such list or lists may be corrected from time to time as may be necessary.

SEC. 7. Any person who prescribes medicine, or performs any procedure of surgery or midwifery, or treats or professes to treat disease, deformity, or injury, by any drug, operation, or apparatus, for the purpose of gain, directly or indirectly, shall be considered as coming within the intent of this act.

SEC. 8. Nothing in this act shall apply to medical students pursuing their studies with a registered physician or in any legally-chartered medical college, or to dentists practicing dentistry only, or to persons rendering gratuitous services in cases of emergency; nor shall anything in this act be construed to impair the rights or privileges of the chartered medical societies as set forth by the present laws of the State.

SEC. 9. Every person violating sections one, two, four, or five of this act shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than one hundred nor more than three hundred dollars for the first offense, and for each subsequent offense by a fine of not less than two hundred nor more than five hundred dollars, or by imprisonment in the county jail for not less than thirty nor more than ninety days, or by both such fine and imprisonment, the fine, when collected, shall be paid one-half to the person or corporation making complaint and the other half to the county treasury.

SEC. 10. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

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The names of those who have been Presidents are in Capitals.

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WINDSOR LOCKS:
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Frank G. Bennett.

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NEW HAVEN COUNTY.

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NEW LONDON COUNTY.

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F. J. Blackwell, M.D., of New London, Clerk.

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Jas. E. Folger,
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JEWETT CITY:
George H. Jennings.

GASTON, Mystic River:
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LEMANON:
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LISONS:
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HYATT:
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MOTTI BRIDGE:
Frank A. Custer.

NIANTIC:
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NORWICH:
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Patrick Cassidy,
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S. L. Sprague,
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A. Peck,
W. H. Mason,
E. F. Brewer,
N. P. Smith,
Edmund Robinson,
W. P. Stinson,
Patrick Harriman,
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GREENVILLE:
William White,
Julius La Pierre.

OLD TIME:

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STONINGTON:

Charles E. Brantley.

George D. Stanton.

CAMDEN:

Paul Matteson.

YACHT:

Elmer Phinney.*

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DORRIS LAYTON, M.D., of Bridgeport, Vice-President.

W. H. DONALDSON, M.D., of Fairfield, Clerk.

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George F. Lewis,

James H. Cummings,

George L. Foster,

Robert Lander,

Francis J. Young,

Charles B. Bill,

N. E. Woodin,

G. M. Teeple,*

Clara B. Shaffrey,

P. M. Wilson,

T. F. Martin,

W. H. Russell,

Willis Cummings,

P. B. Downs,

E. W. Hanson,

Mary J. Henry Young,

W. C. Bowers,

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BROOKFIELD:

A. L. Williams.*

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A. T. Clouse,

Wm. F. Lacey.

A. E. Adams,

E. E. Snow,

Peter H. Lynch,

August Stratton,

W. L. Watson,

George Banks,

Geo. E. Lemmer,

A. L. Scott.

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John G. Stevens.

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NEWTOWN:

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NORFOLK:

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GREENFELD HILL:

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FAIRFIELD:

W. H. Donaldson.

NOTKALE:

James G. Gregory.

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H. L. Higgins,

C. S. Murray.

SOUTH NORFOLK:

Geo. W. Benedict.

W. J. Burke, Jr.

* Over sixty years of age.

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Willis E. Wool.

REHOBOTH:

H. B. Wakeman.

SEALFORD:

C. H. Osborne.

STRATFORD:

W. B. Cagwell,
Geo. P. Lewis.

STAMFORD:

H. P. Gold,
Henry Hungerford,
A. M. Hubbard,
C. S. Duffly,
Samuel Plerson.

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Seth Hill.

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SANDY HOOK:

Amos P. Smith,
G. Talmsedge Brown.

WALTON:

S. H. Harrington,
A. B. Gorham.

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WINDHAM COUNTY.

CHARLES J. FOX, M.D., of Williamsville, President.

CHARLES N. ALLEN, M.D., of Moscow, Clerk.

COMMITTEE—WM. A. LEWIS, M.D., T. M. HILLS, M.D., E. H. DAVIS, M.D.

County Reporter—RICHARD KORTSMAN, M.D., of Delhi.

ARROYO:

John B. Stevens.*

KILLBUCK:

Asahel E. Darling,
Henry P. Hammond.

DANFORTHVILLE:

Hezekiah Brown,
Nathaniel Hubbard,
Napoleon Malt.

EAST KILLBUCK:

Edwin A. Hill,*
Chas. E. Hill.

PLAINFIELD, Moscow:

William A. Lewis,
Chas. N. Allen,
E. H. Davis.

CENTRAL VILLAGE:

Chas. H. Rogers.*

FORBURY:

Frederick G. Samuels,
Prof. W. Chagrin.

PUTNAM:

H. W. Hough,*
John Walter,
John B. Kent,
F. A. Merrill.

OAK LAFAY:

F. N. Baskin,
Warren W. Foster.

SCOTLAND:

E. Dwight Kimball.

THURMAN:

LOWELL HOLBROOK.*

GROTONVILLE:

A. A. Leland.

EAST WOODSTOCK:

Frank N. Orr.

WILLIAMSVILLE:

Prof. Rogers,
T. MORTON HILLS,
O. B. Griggs,*
C. J. Fox,
Farnam O. Bennett,
T. R. Parker,
D. Dalton Jacobs,
Samuel David,
Wm. Joseph Connor,
Everett D. Carl.

WATERLOO:

W. H. Judson.

WATERLOO:

E. E. Gaylord.

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* Over sixty years of age.

LITCHFIELD COUNTY.

WM. L. PLATT, M.D., of Torrington, President.

JAMES J. AVERILL, M.D., of Falls Village, Vice-President.

WM. J. FORD, M.D., of Washington, Clerk.

COUNCIL—J. W. BROWNELL, M.D., WM. DEMING, M.D., ORLANDO BROWN, M.D.

County Reporter—J. H. NORTH, M.D., Goshen.

LITCHFIELD.

H. W. RUELL,*
H. E. Gates,
H. J. Beach,
J. J. Seymour,
C. O. Beltes,
WM. DEMING,
Wm. C. Donahay.

Northford.

C. L. Blake.

CANAAN.

C. W. Camp.

West Cornwall.

Edwiel Sanford.

Falls Village.

James J. Averill.

Gaylordsville.

Charles F. Couch.

GOSHEN.

J. H. North.

Terryville.

W. P. Swett.

NEW HARTFORD.

Jerry Barwell.*

NORTHDALE.

Wm. W. Welch,*

J. H. Stevens,

Geo. C. Kendall.

BOZEHEN.

Myron Brown.*

Lakeside.

H. Howell,
R. P. Knight,
Geo. H. Knight.

SHARON.

William W. Knight.

TERRINGTON.

Wm. Woodruff,*
Ralph S. Goodwin.

TOMINGTON.

Wm. L. Platt,
T. S. Hackett.

HARRIS.

John B. Derricksen.

WASHINGTON.

Orlando Brown,
Wm. J. Ford,
D. Chester Brown.

NEW PATERSON.

R. A. Murry.

WASHINGTON.

W. S. Margett,
Eugene C. French.

WINDSOR, West Windsor.

John W. Belwell.*

WOODBURY.

Harrison W. Shaw,
L. Y. Ketchum.

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MIDDLESEX COUNTY.

C. A. SEARS, M.D., of Portland, President.

FRANK B. LOOG, M.D., of Middletown, Clerk.

COUNCIL—S. W. TURNER, M.D., GEO. W. BRYAN, M.D., K. E. NYE, M.D.

County Reporter—B. W. MATTHEWS, M.D., of Durham.

MIDDLETOWN.

ELISHA B. NYE,*
Geo. W. Burke,*
Rufus Baker.*F. D. Margett,
Jos. W. Almy, Jr.,
Daniel A. Cleveland,
Jos. Quastent.

Wm. E. Fisher.
 C. E. Stanley.
 P. V. Bowers.
 J. N. Kenner.
 H. S. Noble.
 H. D. Murphy.
 F. B. Cook.
 Jno. E. Bailey.
 CHATHAM, Middle Hadden:
 Albert B. Worthington.*
 CLINTON:
 Herbert S. Reynolds.
 East Haddon:
 Albert Field.
 CHESHIRE:
 Sylvester W. Turner.*
 CROOKELL:
 Bishop B. Hallock.
 J. Francis Calot.
 Frank E. Hallock.
 W. M. Knowlton.
 DUNHAM:
 R. W. McIntire.*
 Essex:
 Charles H. Hubbard.
 Willis A. Russell.

HADHAM:
 Myer C. Hamer.
 Selden C. Noyes.
 EAST HADHAM:
 Chas. A. Fox.
 KILLSWORTH:
 John H. Nichols.
 MOORE:
 A. W. Bell.
 OLD SATURDAY:
 J. B. Greenleaf.
 PORTLAND:
 C. A. Sears.
 Cornelius E. Hammond.
 C. F. Dwyer.
 A. J. Campbell.
 SATURDAY, Deep River:
 Edwin Belwell.*
 J. H. Moody.
 WESTWOOD:
 G. C. H. Gilbert.*
 T. B. Bloomfield.

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TOLLAND COUNTY

P. I. DICKINSON, M.D., of Rockville, President.

WILLIAM H. CLARK, M.D., of Tolland, Clerk.

COUNCIL—C. F. SCHMIDT, M.D., E. P. FAIST, M.D., P. L. SMITH, M.D.

County Agents—A. G. BOLAY, M.D.

TOLLAND:
 William H. Clark.
 BOLTON:
 CHAS. F. STUNNED.*
 ELLINGTON:
 J. A. Warren.
 MANSFIELD:
 F. E. Johnson.
 COVENTRY (North):
 Wm. C. Haven.
 BOSTON:
 S. W. Houghton.
 South Coventry:
 Henry S. Dean.*
 E. P. Flint.

STAFFORD:
 Wm. N. Clark.*
 Stafford Springs:
 C. B. Newton.
 F. L. Smith.
 VERNON, Vernon Depot:
 A. H. GOODRICH.*
 ROCKVILLE:
 Stephen O. Bailey.*
 Francis L. Dickinson.*
 Frederick Gilman.
 E. K. Leonard.
 T. F. Rockwell.
 Fred. Walsh.
 WILLINGTON:
 W. V. Wilson.

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* Over sixty years of age.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY.

With Date and Place of Graduation, and Post-office Address.

Name.	Place and Date of Graduation.	P. O. Address.
Albright, A. E.	Albany, 1881.	Cottleville.
Adams, A. E.	Col. Phys. and Surg., 1889.	Danbury.
Allen, Charles N.	Burlington, 1891.	Moscow.
Allen, H. O.	Univ. N. Y., 1879.	Broadbrook.
Allen, Hall.	Univ. N. Y., 1921.	Milford.
Alting, W. G.	Yale, 1870.	New Haven.
Almy, I. B.	Belleme, N. Y., 1876.	Norwich.
Almy, J. W., Jr.	Univ. N. Y., 1864.	Middletown.
Alton, C. D.	Belleme, 1875.	Hartford.
Altwater, C. H.	Col. Phys. and Surg., 1871.	Wallingford.
Andrews, Wm. H.	Belleme, N. Y., 1873.	Milford.
Avery, Geo. W.	Yale, 1861.	Hartford.
Averill, Eas. J.	Yale, 1860.	Pulls Village.
Axelle, J. F.	L. I. Hosp. Col., 1877.	Hartford.
Axelle, Theo. L.	Belleme, 1890.	Waterbury.
Bacon, Francis.	Yale, 1852.	New Haven.
Bacon, Wm. T.	Univ. N. Y., 1871.	Hartford.
Bailey, G. E.	Univ. N. Y., 1866.	Hartford.
Bailey, Jas. E.	Col. Phys. and Surg., 1884.	Middletown.
Baker, Rufus.	Columbia Col. D. C., 1844.	Middletown.
Banks, Geo.	Col. Phys. and Surg., 1883.	Danbury.
Barks, Nicholas.	Yale, 1844.	Wallingford.
Barber, W. J.	Belleme, 1823.	Waterbury.
Barber, W. P.	Dartmouth, N. H., 1870.	Lebanon.
Barber, A. E.	Berkshire, Mass., 1854.	Bethel.
Barber, J. W.	Yale, 1860.	Westville.
Barnes, Lewis.	Univ. Buffalo, N. Y., 1882.	Oxford.
Barnett, J. P.	Yale, 1860.	West Haven.
Barnes, F. N.	Virginia Medical, 1860.	Painawt.
Barnow, A. W.	Yale, 1841.	Hartford.
Barnow, August.	Burlington, Vt., 1878.	East Hartford.
Bass, W. J.	Col. Phys. and Surg., 1867.	Litchfield.
Bass, Chas. C.	Col. Phys. and Surg., 1861.	Hartford.
Beardsley, F. M.	Yale, 1845.	Moscow.
Beardsley, G. L.	Belleme, N. Y., 1873.	Birmingham.
Beckwith, F. E.	Col. Phys. and Surg., 1813.	New Haven.

Name	Place and Date of Graduation	P. O. Address
Berkwith, F. J.,	Harvard, 1892.	New London.
Belden, C. O.,	Coll. Phys. and Surg., 1882,	Litchfield.
Bell, A. W.,	Univ. N. Y., 1875.	Middlet.
Bell, Newton S.,	Washington, Vt., 1894.	Windsor.
Bellows, P.,	Yale, 1872.	New Haven.
Bennett, Geo. W.,	Coll. Phys. and Surg., 1879.	South Norwalk.
Bennett, J. M.,	Univ. N. Y., 1885.	Waterbury.
Bennett, F. O.,	Berkshire, 1859.	Williamsville.
Bennett, M. B.,	Berkshire, 1865.	Bristol.
Bidwell, Edwin,	Yale, 1877.	Deep River.
Bidwell, John W.,	Berkshire, 1845.	West Winsted.
Bill, Curtis H.,	Univ. N. Y., 1888.	Bridgeport.
Bishop, E. H.,	Yale, 1869.	New Haven.
Bishop, T. H.,	Yale, 1869.	New Haven.
Bisell, E. L.,	Yale, 1891.	New Haven.
Bissell, William,	Yale, 1856.	Lakeville.
Biske, C. L.,	Yale, 1875.	Northfield.
Budgett, Henry,	Bellevue, 1887.	Bridgeport.
Bloomfield, T. R.,	Coll. Phys. and Surg., 1878.	Westbrook.
Bolles, Jas. C.,	Vermont Med. Coll., 1913.	Montville.
Boston, Geo. B.,	Yale, 1856.	Westport.
Bowers, W. C.,	Coll. Phys. and Surg., 1877.	Bridgeport.
Bradstreet, E. T.,	Coll. Phys. and Surg., 1877.	Meriden.
Bradley, B. L.,	Yale, 1864.	New Haven.
Brasana, F. N.,	Bellevue, 1866.	New London.
Bryant, Charles N.,	Coll. Phys. and Surg., 1875.	Stonington.
Brewer, E. P.,	Dartmouth, 1878.	Norwich.
Brockett, Chas. H.,	Yale, 1886.	New Haven.
Broadley, Daniel T.,	Yale, 1862.	Hartford.
Brown, Henry,	Yale, 1877.	New Haven.
Brown, D. Chester,	Yale, 1884.	Washington.
Brown, C. Talbot,	Univ. N. Y., 1878.	Sandy Hook.
Brown, Orlando,	Yale, 1861.	Washington.
Brown, W. T.,	Harvard, 1883.	Jewett City.
Brownson, Wm. G.,	Coll. Phys. and Surg., 1882.	New Canaan.
Burt, Henry W.,	Coll. Phys. and Surg., 1867.	125-126-127.
Ball, J. N.,	Coll. Phys. and Surg., 1878.	Cheshire.
Burce, H. C.,	Yale, 1858.	Cheshire.
Burnell, W. H.,	Coll. Phys. and Surg., 1879.	Bridgeport.
Burchard, Wm. M.,	Georgetown, D. C., 1866.	Montville.
Burke, Geo. W.,	Yale, 1845.	Middlebury.
Burke, Wm. C., Jr.,	L. I. Coll. Hosp., 1875.	South Norwalk.
Burnap, S. H.,	Coll. Phys. and Surg., 1882.	Winnon Locks.
Burnett, Frank G.,	Univ. N. Y., 1885.	South Windsor.
Burnett, P. V.,	Univ. N. Y., 1878.	Middlebury.
Burnell, Jerry,	Berkshire, 1829.	New Hartford.
Bush, Geo. M.,	Yale, 1881.	New Haven.
Butler, John S.,	Jefferson, Pa., 1828.	Hartford.
Cahé, J. P.,	Yale, 1889.	Cornwall.
Camp, C. W.,	Univ. N. Y., 1871.	Canaan.
Campbell, Jas. J.,	Univ. Vermont, 1871.	Hartford.
Campbell, A. J.,	Coll. Phys. & Surg., Balt., '83.	Portland.
Cannon, F. M.,	Univ. N. Y., 1867.	Waterbury.
Carr, Everett D.,	Clark Univ., 1891.	Williamsville.
Carswell, W. H.,	Coll. Phys. and Surg., 1865.	New Haven.
Carriagton, Charles,	Coll. Phys. and Surg., 1848.	Farmington.
Carriagton, Henry A.,	Harvard, 1848.	New Haven.

Name.	Place and Date of Graduation.	P. O. Address.
Cassidy, Patrick,	Univ. Vermont,	Norwich.
Castle, P. E.,	Yale, 1870,	Waterbury
Chamberlain, M. N.,	Yale, 1896,	Cheshire
Chapin, P. W.,	Univ. N. Y., 1882,	Pomfret
Chapman, A. T.,	Coll. Phys. and Surg., 1884,	Myatie.
Chapman, S. H.,	Coll. Phys. and Surg., 1892,	New Haven.
Chase, S. L.,	Coll. Phys. and Surg., 1890,	Colchester.
Child, E. M.,	Univ. N. Y., 1877,	Menden.
Childs, Seth L.,	Woodstock, Vt., 1833,	East Hartford.
Churchill, Ann H.,	Yale, 1852,	Meyden.
Clark, E. C.,	Univ. Vermont, 1880,	Norwalk.
Clark, F. P.,	Coll. Phys. and Surg., 1876,	Danbury
Clark, William H.,	Univ. N. Y., 1887,	Tolland.
Clark, Wm. N.,	Yale, 1838,	Stafford.
Clason, A. F.,	Univ. N. Y., 1873,	Danbury.
Clary, George,	Yale, 1857,	New Britain.
Cleveland, D. A.,	Broadway, Mo., 1856,	Middletown.
Coates, Frank A.,	Coll. Phys. and Surg., 1873,	Myatie Bridge.
Cogswell, W. B.,	Belleue, 1881,	Stratford.
Coleman, M. J.,	Univ. N. Y., 1865,	New Britain.
Conings, B. N.,	Castleton, Vt., 1845,	New Britain.
Conklin, W. H.,	Univ. N. Y., 1883,	Amos.
Conner, Wm. J.,	Univ. N. Y., 1885,	Williamsville.
Conch, Charles P.,	Berkshire, 1867,	Guilfordville.
Conry, David,	Castleton, 1834,	Hartford.
Conry, David, Jr.,	Yale, 1869,	Hartford.
Cooper, Lucy A.,	Woman's Coll., Pa., 1865,	New Haven.
Cord, C. Y. R.,	Yale, 1851,	New Britain.
Cosida, L. M.,	Univ. N. Y., 1881,	New Britain.
Cornin, M. A.,	Coll. Phys. and Surg., 1874,	New Haven.
Cosby, Noah,	Berkshire, 1862,	Hartford.
Cornin, Jos. P.,	Coll. Phys. and Surg., 1882,	New London.
Croswell, F. S.,	Belleue, 1878,	Hartford.
Crothers, T. D.,	Albany, 1865,	Hartford.
Cummings, Jas. H.,	Coll. Phys. and Surg., 1867,	Bridgeport.
Cummings, Willie,	Univ. N. Y., 1882,	Bridgeport.
Daggett, David L.,	Yale, 1843,	New Haven.
Daggett, Wm. G.,	Univ. of Pa., 1885,	New Haven.
Daly, C. S.,	Charleston Med. Coll., 1860,	Stamford.
Dart, Fred H.,	Coll. Phys. and Surg., 1880,	Niantic.
Davies, A. E.,	Harvard, 1872,	Killingly.
Davis, Samuel,	Victoria Coll., Montreal, 1835,	Williamsville.
Davis, C. H. S.,	Univ. N. Y., 1865,	Menden.
Davis, E. H.,	Buckingham, N. J., 1871,	Moscow.
Davis, G. P.,	Coll. Phys. and Surg., 1869,	Hartford.
Davis, H.,	Yale, 1853,	Wallingford.
Dayton, L. A.,	Univ. N. Y., 1887,	Hartford.
Day, L. T.,	Yale, 1888,	Weymouth.
DeForest, Wm. B.,	Yale, 1848,	New Haven.
DeForest, Lewis S.,	Univ. of Iowa, 1886,	New Haven.
Dean, H. S.,	Jefferson, 1832,	South Coventry.
Deane, Hiram C.,	Univ. N. Y., 1885,	New Britain.
Deming, Wm.,	Yale, 1854,	Litchfield.
Deming, Wm. C.,	Coll. Phys. and Surg., 1884,	Litchfield.
Derrickson, John B.,	Jefferson, 1838,	Warren.
Diddle, Frederick L.,	Yale, 1858,	New Haven.
Dickinson, P. L.,	Yale, 1800,	Rockville.

NAME.	Place and Date of Birth.	P. O. ADDRESS.
Danielson, W. H.	Univ. N. Y., 1881.	Fairfield.
Dashfle, Geo. T.	Yale, 1884.	New Haven.
Deane, A. T.	Univ. N. Y., 1848.	New London.
Deane, Henry.	Yale, 1872.	Meriden.
Deane, F. H.	Coll. Phys. and Surg., 1818.	Bridgeport.
Deane, Milton.	Yale, 1868.	Bedford.
Dunkan, M. V. B.	Harvard, 1861.	Greenfield Ht.
Dyer, Martha M.	Women's Coll., Pa., 1829.	Waterbury.
Dwyer, John.	Univ. N. Y., 1871.	Hartford.
Edwards, Francis D.	Coll. Phys. and Surg., 1861.	Madison.
Egleston, J. D.	Coll. Phys. and Surg., 1872.	Meriden.
Elliot, Gustavus.	Coll. Phys. and Surg., 1880.	New Haven.
Ellsworth, P. W.	Coll. Phys. and Surg., 1829.	Hartford.
Emery, R. E.	Albany, 1838.	Bedford.
Estlin, F. P.	Univ. Mich., 1872.	Waterbury.
Evans, Anna J.	Women's Med. Coll., Pa., '74.	Meriden.
Fack, Albert.	L. I. Coll. Hosp., 1867.	East Hampton.
Fack, Geo. T.	Bellevue, N. Y., 1877.	Thompsonville.
Fisher, Wm. E.	Univ. Pa., 1876.	Minnetonka.
Fiske, I. P.	Univ. N. Y., 1813.	Southington.
Fitch, C. L.	Dartmouth, 1861.	New Haven.
Fletcher, Henry.	Yale, 1878.	New Haven.
Flinn, E. P.	Yale, 1879.	South Coventry.
Ford, Wm. J.	Univ. N. Y., 1884.	Washington.
Foster, J. P. C.	Yale, 1878.	New Haven.
Foster, Warren W.	Harvard, 1882.	Palmers.
Fox, Charles A.	Coll. Phys. and Surg., 1881.	East Hartford.
Fox, Charles J.	Univ. N. Y., 1878.	Williamstown.
Fox, Edw. G.	Univ. N. Y., 1881.	Wethersfield.
Fox, Roswell.	Univ. N. Y., 1847.	Wethersfield.
French, E. C.	Ann Arbor, 1882.	Watertown.
French, Charles H.	Bellevue, 1880.	Watertown.
French, Wm. P.	Univ. N. Y., 1881.	Norman.
Froelich, C. E.	Copenhagen, 1875.	Hartford.
Frost, C. W. S.	Coll. Phys. and Surg., 1884.	Waterbury.
Fulder, Horace S.	Coll. Phys. and Surg., 1867.	Hartford.
Fulder, Jas. R.	Bellevue, 1875.	New London.
Galloway, S. W.	Harvard, 1877.	Bridgeport.
Gates, H. E.	L. I. Coll. Hosp., 1861.	Litchfield.
Gaskell, C. W.	Yale, 1872.	Bradford.
Gayford, E. E.	Yale, 1878.	Woodstock.
Gels, H. P.	Bellevue, 1869.	Stanford.
Gilbert, G. C. H.	Yale, 1844.	Woodstock.
Gilbert, L. H.	Yale, 1871.	New Haven.
Gilbert, S. D.	Yale, 1871.	New Haven.
Giles, Chas. A.	Univ. N. Y., 1881.	Bedford.
Gilman, P.	Coll. Phys. and Surg., 1867.	Durkville.
Gladwin, Ellen F. H.	Women's Med. Coll., N. Y., Internary, 1872.	Hartford.
Goffney, C. C.	Dartmouth, 1862.	Bridgeport.
Goodrich, A. E.	Bellevue, 1844.	Yorston.
Goodwin, R. S.	Coll. Phys. and Surg., 1869.	Thomaston.
Goodyear, H. B.	Yale, 1868.	North Haven.
Gordon, A. B.	Yale, 1872.	Willow.
Gorman, F.	Yale, 1878.	Weston.

Name.	Place and Date of Graduation.	P. O. Address.
Grattis, John H.	Yale, 1868.	Old Saybrook.
Graves, Chas. E.	Harvard, 1886.	New London.
Gray, Henry.	Dartmouth, 1842.	Ellsworth M.
Gray, John.	Yale, 1853.	Mythic River.
Gregory, James G.	Coll. Phys. and Surg., 1868.	Norwalk.
Giffin, E. D.	Coll. Phys. and Surg., 1867.	Old Lyme.
Griggs, E. L.	L. I. Coll. Hosp., 1864.	Watertown.
Griggs, O. R.	Univ. N. Y., 1847.	Willimantic.
Grimm, J. E.	Univ. N. Y., 1878.	Glastonbury.
Grimm, R. M.	Univ. N. Y., 1825.	Manchester.
Grimm, R. W.	Coll. Phys. and Surg., 1854.	Rocky Hill.
Hallock, Frank R.	Coll. Phys. and Surg., 1865.	Cromwell.
Hallock, Whitthrop R.	L. I. Coll. Hosp., 1864.	Cromwell.
Hammond, C. F.	Yale, N. Y.	Providence.
Hammond, Henry P.	Harvard, 1866.	Killingly.
Hawthorn, T. S.	Dartmouth, N. Y., 1844.	Torrington.
Hartman, Patrick.	Univ. N. Y., 1844.	Norwalk.
Harris, G. W.	Coll. Phys. and Surg., 1842.	Old Lyme.
Hart, S. W.	Yale, 1853.	New Britain.
Hastings, P. M.	Coll. Phys. and Surg., 1847.	Hartford.
Hawkes, Wm. W.	Yale, 1861.	New Haven.
Hazen, Wm. C.	Univ. N. Y., 1877.	North Coventry.
Hazen, M. C.	Univ. Michigan, 1853.	Indian.
Heady, E. R.	Yale, 1872.	Willford.
Hedward, Nathaniel.	Harvard, 1882.	Danversville.
Higgins, M. L.	Bellefleur, 1867.	Norwalk.
Hill, T. A.	Harvard, 1833.	East Killingly.
Hill, Chas. E.	Harvard, 1878.	East Killingly.
Hills, T. M.	Yale, 1883.	Williamstown.
Hill, Seth.	Yale, 1864.	Seymour.
Holmes, A. A.	Harvard, 1868.	Bridgeport.
Holmes, George J.	Albany, 1885.	New Britain.
Holmes, W. H.	Harvard, 1878.	Watertown.
Holbrook, Howell.	Univ. N. Y., 1828.	Thompson.
Horton, W. W.	Univ. N. Y., 1878.	Unionville.
Hutchins, W. H.	Yale, 1872.	New Haven.
Hugh, H. W.	Yale, 1836.	Putnam.
Hughes, Susan W.	Bellefleur, 1879.	Somers.
Howard, John.	Dartmouth, 1881.	Hartford.
Howe, H. G.	Coll. Phys. and Surg., 1875.	Hartford.
Howard, C. H.	Yale, 1860.	Monkton.
Howard, C. H.	Yale, 1860.	Essex.
Howard, Robert.	Yale, 1851.	Bridgeport.
Howard, Stephen G.	Dartmouth, 1843.	New Haven.
Hudson, Wm. M.	Jefferson, 1855.	Hartford.
Hughes, O. J. D.	L. I. Coll. Hosp., 1873.	Merriden.
Hungerford, Henry.	Coll. Phys. and Surg., 1860.	Stamford.
Hungerford, Robert.	Coll. Phys. and Surg., 1885.	Seymour.
Hunt, E. K.	Jefferson, 1858.	Hartford.
Huntington, S. H.	Yale, 1876.	Willton.
Hurlbut, A. M.	Coll. Phys. and Surg., 1879.	Stamford.
Ingham, P. H.	Coll. Phys. and Surg., 1880.	Hartford.
Ives, Levi.	Yale, 1868.	New Haven.
Ives, Robert S.	Coll. Phys. and Surg., 1893.	New Haven.
Jacob, D. Dutton.	Univ. N. Y., 1871.	Willimantic.
Jarvis, Geo. C.	Univ. N. Y., 1861.	Hartford.

Name.	Time and Date of Graduation.	P. O. Address.
Jennings, G. H.	L. I. Coll. Hosp., 1875.	Jewett City.
Jewett, J. W.	Univ. N. Y., 1881.	New Haven.
Johnson, D. D.	Univ. N. Y., 1883.	New Britain.
Johnson, H. M.	Univ. N. Y., 1877.	Hartford.
Johnson, S. C.	Cyena Med. Soc., 1825.	Seymour.
Johnson, F. E.	Univ. N. Y., 1878.	Middletown.
Judson, Walter.	Coll. Phys. and Surg., 1870.	New Haven.
Judson, W. H.	Jefferson, 1875.	Waterbury.
Kane, J. Henry.	L. I. Coll., 1885.	Merriden.
Kendall, John C.	Coll. Phys. and Surg., 1875.	Norfolk.
Kendall, Joshua C.	Coll. Phys. and Surg., 1875.	Seymour.
Kendall, J. M.	Harvard, 1872.	Middletown.
Kend, J. B.	Harvard, 1869.	Plymouth.
Ketchum, L. Y.	Univ. Ct., 1880.	Woodbury.
Kinsall, E. D.	Coll. Phys. and Surg., 1886.	Scituate.
Kinsley, E. C.	N. Y. Med. Coll., 1878.	Norwich.
Knight, R. P.	Coll. Phys. and Surg., 1880.	Lakeville.
Knight, Geo. B.	Coll. Phys. and Surg., 1886.	Lakeville.
Knight, W. W.	Berkshire, 1850.	Sharon.
Knight, W. W.	Univ. N. Y., 1878.	Hartford.
Kneeland, W. M.	Univ. Vt., 1880.	Canaan.
Lacey, Wm. F.	Yale, 1844.	Danbury.
Lambert, R. L.	Univ. N. Y., 1885.	New Haven.
Lambert, Robert.	Yale, 1871.	Bridgewater.
LaParo, Julian.	Bellvue, 1871.	Greenwich.
Lalor, Oscar.	Victoria, Montreal, 1871.	Pasadena.
Lalor, A. A.	Bishop's Coll. Montreal.	Brownsville.
Leighton, A. W.	Yale, 1879.	New Haven.
Leavensworth, D. C.	Yale, 1865.	New Haven.
Lee, Thos. G.	Univ. Penn., 1886.	New Haven.
Letour, Geo. E.	Bellvue, 1885.	Danbury.
Leicester, E. K.	Cyena Med. Soc., 1866.	Rockville.
Lewis, D. S.	Harvard, 1875.	New Haven.
Lewis, G. F.	Yale, 1856.	Bridgewater.
Lewis, G. F.	Yale, 1864.	Colchester.
Lewis, Geo. F.	Yale, 1884.	Stratford.
Lewis, John B.	Univ. N. Y., 1870.	Hartford.
Lewis, Wm. A.	Harvard, 1851.	Middletown.
Lewis, Wm. J.	Coll. Phys. and Surg., 1878.	Hartford.
Lindsay, C. A.	Yale, 1857.	New Haven.
Lindsay, C. P.	Yale, 1878.	New Haven.
Lindsay, C. F.	Yale, 1882.	Portland.
Lockwood, W. A.	Coll. Phys. and Surg., 1864.	Norwalk.
Lockwood, Wm. E.	Yale, 1865.	New Haven.
Loeb, Frank E.	Berkshire, 1864.	Middletown.
Loomis, F. M.	Yale, 1882.	Middletown.
Lukey, John P.	Coll. Phys. and Surg., 1878.	New Haven.
Lynch, J. C.	Univ. N. Y., 1886.	Bridgewater.
Lynch, Peter H.	Univ. Vermont, 1882.	Danbury.
Lyons, E. B.	Berkshire, 1862.	New Britain.
Lyons, E. B.	Coll. Phys. and Surg., 1885.	Bethel.
Lyons, Irving W.	Coll. Phys. and Surg., 1863.	Hartford.
Lyons, A. W.	Columbia, 1876.	Bridgewater.
Matkose, Max.	Yale, 1878.	New Haven.
Male, Napoleon.	Victoria, Montreal, 1879.	Danielsonville.

Name.	Place and Date of Graduation.	P. D. Address.
Mackering, R. A.,	Yale, 1821.	New London.
Macey, R. A.,	Univ. N. Y., 1852.	New Preston.
Markham, George E.,	Univ. N. Y., 1852.	Barnstable.
Martin, T. P.,	Univ. N. Y.,	Bridgewater.
Mason, J. K.,	Harvard, 1841.	Suffield.
Mason, W. H.,	Rutland, 1829.	Norwich.
Mathew, Wm. H.,	Univ. N. Y.,	Suffield.
Mathewson, Earl,	Col. Phys. & Surg., N. Y., '79.	Unionville.
Mathewson, H. W.,	Col. Phys. and Surg., 1853.	Dorham.
May, A. E.,	Univ. Vermont, 1829.	Newmarket.
May, Jacob,	Med. Coll., 1826.	Dedgewater.
May, Nathan,	Urbana, 1837.	Hartford.
McGaughey, J. D.,	Jefferson, 1879.	Wallingford.
McKnight, F. J.,	Col. Phys. and Surg., 1879.	East Hartford.
McDonald, E. W.,	Univ. N. Y., 1871.	Waterbury.
Mead, E. H.,	Univ. Michigan, 1878.	Sharon.
Miller, Geo. H.,	Col. Phys. & Surg., Coll., '80.	Hartford.
Mundy, J. H.,	Univ. N. Y., 1863.	Deep River.
Morgan, Wm. D.,	Col. Phys. and Surg., 1877.	Hartford.
Musell, P. A.,	L. I. Col. Hosp., 1885.	Pittsford.
Morrissey, J. J.,	Univ. N. Y., 1891.	Hartford.
Moss, E. T.,	Berkington, 1877.	East Hartford.
Munger, Eliza,	Yale, 1873.	Norwich.
Munroe, Carl E.,	Col. Phys. and Surg., 1882.	Waterbury.
Munger, H. S.,	Yale, 1862.	Watertown.
Munson, B. W.,	Yale, 1869.	Bridgewater.
Murphy, M. D.,	Belleve, 1881.	Middletown.
Murray, C. S.,	Col. Phys. and Surg., 1877.	Norwalk.
Nelson, A. W.,	Harvard, 1861.	New London.
Newcomb, J. J.,	Yale, 1873.	Litchfield.
Newton, C. R.,	Yale, 1851.	Stafford Springs.
Newton, M. T.,	Yale, 1851.	Suffield.
Nicherson, N.,	N. Y. Med. Coll., 1857.	Merriden.
Nicoll, John,	Yale, 1851.	New Haven.
Noble, H. S.,	Col. Phys. & Surg., N. Y., '71.	Middletown.
North, Alfred,	Col. Phys. and Surg., 1867.	Waterbury.
North, J. H.,	L. I. Col. Hosp., 1873.	Goshen.
Noyes, S. C.,	Univ. Pa., 1868.	Barkton.
Nye, Eliza B.,	Yale, 1858.	Middlebury.
O'Connor, M. C.,	Col. Phys. and Surg., 1877.	New Haven.
O'Flaherty, John,	Albany, 1864.	Hartford.
Olaf, Frank N.,	Univ. Michigan, 1861.	East Woodstock.
Olmos, Jas.,	Yale, 1874.	Middletown.
Osborne, C. D.,	Yale, 1876.	Southbury.
Osborn, Oliver T.,	Yale, 1864.	New Haven.
O'Sullivan, T. J.,	Univ. N. Y., 1874.	Birmingham.
Otis, H. S.,	Harvard, 1863.	Hartford.
Otis, S. D.,	Univ. N. Y., 1877.	Meriden.
Packard, Geo. B.,	Univ. Vermont, 1874.	Hartford.
Packard, Lewis S.,	Univ. N. Y., 1854.	Norwich.
Pape, C. W.,	Harvard, 1879.	Hartford.
Park, Charles E.,	Yale, 1866.	New Haven.
Parker, J. N.,	Yale, 1877.	South Manchester.
Parker, T. B.,	Univ. N. Y., 1889.	Williamsville.
Partridge, Geo. L.,	L. I. Col. Hosp., 1869.	Hartford.

Name	Place and Date of Graduation.	P. O. Address.
Parsons, E. S.,	Coll. Phys. and Surg., 1859,	Thompsonville.
Peck, A.,	Univ. N. Y., 1875,	Norwich.
Perkins, W. S. C.,	Coll. Phys. and Surg., 1860,	Norwich.
Phillips, A. N.,	Coll. Phys. and Surg., 1862,	Bridgeport.
Phinney, E.,	Yale, 1855,	Yantic.
Pierpont Henry,	Yale, 1854,	New Haven.
Pierson, Samuel,	Coll. Phys. and Surg., 1861,	Stamford.
Pliner, Chas. H.,	Coll. Phys. and Surg., 1853,	Derby.
Platt, G. L.,	Yale, 1848,	Waterbury.
Platt, Wm. L.,	Coll. Phys. & Surg., N. Y., '81,	Torrington.
Porter, George L.,	Jefferson, 1862,	Bridgeport.
Porter, Wm., Jr.,	Chicago Med. Coll., 1881,	Hartford.
Porter, Isaac G.,	Univ. Pa., 1853,	New London.
Powers, F.,	Coll. Phys. and Surg., 1850,	Westport.
Reynolds, Herbert S.,	Univ. N. Y., 1882,	Clinton.
Richardson, D. A.,	Yale, 1860,	Monroe.
Rising, H. M.,	Yale, 1868,	South Glastenbury.
Riley, S. G.,	Univ. N. Y., 1846,	Rockville.
Roberts, Edward K.,	Yale, 1866,	New Haven.
Robinson, Hyman W.,	Berkshire, 1860,	Caledonia.
Robinson, Henry,	Coll. Phys. & Surg., Balt., '81,	Norwich.
Robinson, Henry,	L. I. Coll. Hosp., 1862,	Danburyville.
Rockwell, S. W.,	Yale, 1855,	East Windsor Hill.
Rockwell, T. F.,	Univ. N. Y., 1881,	Rockville.
Rodman, Charles S.,	Coll. Phys. and Surg., 1868,	Waterbury.
Rogers, Charles H.,	Yale, 1847,	Central Village.
Rogers, Paul,	Univ. N. Y., 1861,	Williamstown.
Root, E. K.,	Univ. N. Y., 1879,	Hartford.
Root, J. E.,	Coll. Phys. and Surg., 1862,	Hartford.
Rückholt, A.,	Univ. Jena, Austria, 1863,	New Haven.
Russell, Gordon W.,	Yale, 1867,	Hartford.
Russell, W. A.,	Univ. N. Y., 1881,	Essex.
Russell, Wm. S.,	Yale, 1860,	Wallingford.
Russell, T. H.,	Yale, 1855,	New Haven.
Russell, Willis A.,	Univ. N. Y., 1886,	Essex.
Sanford, Edward,	N. Y. Med. Coll., 1859,	West Cornwall.
Sanford, George W.,	Berkshire, 1856,	Simsbury.
Sanford, Leonard J.,	Jefferson, 1854,	New Haven.
Sawelle, Frederick G.,	L. I. Coll. Hosp., 1880,	Pondick.
Scott, Albert L.,	Coll. Phys. and Surg., 1863,	Danbury.
Sears, C. A.,	Univ. N. Y., 1862,	Portland.
Sears, Jas. W.,	Yale, 1865,	New Haven.
Segar, G. C.,	Coll. Phys. and Surg., 1862,	Hartford.
Shelley, C. W.,	Yale, 1861,	Bridgeport.
Shelton, Gould A.,	Yale, 1869,	Shelton.
Shepherd, George R.,	Yale, 1865,	Hartford.
Shore, H. W.,	Yale, 1853,	Woodbury.
Simmons, J. H.,	Yale, 1833,	Asheford.
Simpson, Fred. T.,	Maine Med. School, 1864,	Hartford.
Smith, A. J.,	Coll. Phys. and Surg., 1861,	Bridgeport.
Smith, A. P.,		Sandy Hook.
Smith, E. W.,	McGill Coll., 1862,	Methen.
Smith, P. S.,	Yale, 1862,	West Hartford.
Smith, H. B.,	Yale, 1876,	Westville.
Smith, Herbert E.,	Univ. Pa., 1883,	New Haven.

Name.	Place and Date of Graduation.	P. O. Address.
Smith, N. P.	Coll. Phys. and Surg.,	Norwich.
Smith, F. L.	Yale, N. Y., 1853.	Stafford Springs.
Smith, Oliver C.	L. I. Hosp. Coll., 1883.	Hartford.
Smith, Edw. M.	Coll. Phys. & Surg., N. Y., '82.	Newtown.
Snare, E. E.	Jefferson, 1874.	Danbury.
Sprague, S. L.	Harvard, 1850.	Norwich.
Stark, C. E.	Yale, Pa., 1858.	Middletown.
Starnes, Geo. D.	Bellows, 1865.	Stamington.
Stearns, J. G.	Barnes, 1873.	New London.
Stoddard, G. W.	Bellevue, N. Y., 1873.	Southington.
Stevens, Henry P.	Yale, 1825.	Hartford.
Stetson, J. E.	Yale, 1885.	New Haven.
Stevens, John A.	Yale, N. Y., 1872.	Hartford.
Stevens, J. O.	Yale, 1884.	Monroe.
Stevens, J. B.	Coll. Phys. and Surg., 1862.	Norfolk.
St. John, S. B.	Coll. Phys. and Surg., 1870.	Hartford.
Stoddard, Thomas.	Yale, 1836.	Seymour.
Stone, J. S.	Coll. Phys. and Surg., 1865.	New Britain.
Starr, M.	Yale, 1833.	Hartford.
Stratton, August.	Yale, N. Y., 1868.	Danbury.
Strickland, H. L.	Albany, 1839.	Enfield.
Stetson, W. P.	Coll. Phys. & Surg., N. Y., '80.	Norwich.
Summer, C. F.	Yale, 1834.	Bolton.
Swadlow, Charles G.	Yale, 1879.	New Haven.
Swain, Henry L.	Yale, 1884.	New Haven.
Swett, W. F.	Univ. Vermont, 1878.	Terryville.
Swamy, E. P.	Coll. Phys. and Surg., 1868.	New Britain.
Swift, E. D.	Univ. N. Y., 1849.	Hamden.
Talcott, Abner.	Yale, 1834.	Guilford.
Tropic, G. M.	Albany, 1849.	Bridgeport.
Troxer, Arthur J.	Yale, 1863.	Hartford.
Terry, Jos. L.	Coll. Phys. & Surg., N. Y., '71.	Menden.
Thacher, James K.	Yale, 1879.	New Haven.
Thompson, W. H.	Yale, 1897.	New Haven.
Tiffany, R. H.	Castleton, Vt., 1867.	Hartford.
Disley, W. K.	Bellevue, 1895.	Norwich.
Tinow, W. R.	Univ. N. Y., 1890.	South Manchester.
Todd, Wm. S.	Coll. Phys. and Surg., 1869.	Ridgefield.
Tracy, A. W.	McGill Univ., Canada, 1873.	Menden.
Treadwell, O. F.	Yale, 1865.	New Haven.
Trotter, Sylvester W.	Yale, 1848.	Cheser.
Tuttle, F. R.	Yale, 1862.	Norwich.
Wainwright, W. A. M.	Coll. Phys. and Surg., 1867.	Hartford.
Wakeman, M. H.	Yale, 1854.	Belling.
Wahle, Fred.	Coll. Phys. & Surg., Balt., '84.	Rockville.
Warner, A. S.	Dartmouth, 1847.	Westerfield.
Warren, J. A.	Coll. Phys. and Surg., 1890.	Ellington.
Watson, W. L.	L. I. Coll. Hosp., 1884.	Danbury.
Way, Henry E.	Yale, N. Y., 1849.	Bolton.
Wheeler, C. H.	Coll. Phys. and Surg., Md.,	South Glastonbury.
Webb, D. H.	Yale, 1849.	Hudson.
Wood, Willis E.	Coll. Phys. and Surg., 1894.	Ridgefield.
Welch, Geo. K.	Coll. Phys. and Surg., 1878.	Hartford.
Welch, W. C.	Yale, 1857.	Ansonia.
Welch, William W.	Yale, 1868.	Norfolk.

NAME.	Place and Date of Graduation.	P. O. Address.
Whedley, Frank.	Coll. Phys. and Surg., 1852.	Farmington.
Whedley, Frank H.	Yale Med. Coll., 1882.	New Haven.
White, C. P. S.	Yale, 1885.	New Haven.
White, F. O.	Yale, 1872.	New Haven.
White, Moses C.	Yale, 1854.	New Haven.
White, H. A.	Yale, 1892.	Simsbury.
Whiton, F. H.	Dartmouth, 1871.	North Manchester.
Whittetore, P. H.	Bellevue, N. Y., 1874.	New Haven.
Widman, W. O.	Coll. Phys. and Surg., 1880.	Danbury.
Williams, A. L.	Jefferson, 1840.	Bradfield.
Williamson, S. W.	Yale Med. Coll., 1890.	New Haven.
Wilson, F. M.	Harvard, 1875.	Bridgeport.
Wilson, S. A.	Yale, 1882.	Windsor.
Wilson, W. V.	Yale, 1867.	Willington.
Winchell, A. E.	Coll. Phys. and Surg., 1855.	New Haven.
Winter, John.	Yale, 1817.	Potomac.
Winter, William.	Yale, 1860.	Greensville.
Woodcraft, William.	Yale, 1876.	Thomaston.
Wooster, Chas.	Yale, N. Y., 1859.	Tauntonville.
Woodin, N. E.	Jefferson, 1873.	Bridgeport.
Woodington, A. B.	Yale, 1847.	Middle Haddam.
Wright, P. W.	Bellevue, 1886.	New Haven.
Wright, T. G.	Univ. N. Y., 1865.	Piscataway.
Wright, J. W.	Univ. N. Y., 1880.	Bridgeport.
Young, Francis A.	Yale, 1896.	Bridgeport.
Young, Mary J. B.	Univ. Michigan, 1876.	Bridgeport.
Zink, Walter.	Wartburg.	Bradford.

Members noticing any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

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